

REVISIONAL NOTES ON AFRICAN
CHARAXES
(LEPIDOPTERA : NYMPHALIDAE)
PART VIII



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CHARAXES
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By V. G. L. van SOMEREN

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SYNOPSIS

Fifteen species and their subspecies have been dealt with, two new species, seven new sub-species and three new forms have been described, and one name has been synonymized.

CHARAXES HILDEBRANDTI DEWITZ AND ITS SUBSPECIES***Charaxes hildebrandti*** (Dewitz)

(Pl. I, figs I, 2, Map I)

Nymphalis hildebrandti Dewitz, 1879 : 200, T. 2, f. 16.*Charaxes talagugae* Holland, 1886 : 332, T. 8, f. 3. Type male; type-locality, Ogowe Riv., Gabon.*Charaxes galba* Distant, 1879 : 709.

MALE. *Upperside.* Resembling somewhat a small example of *Ch. brutus angustus*. Fore wing length 33-34 mm. Fore wing shape, apex slightly pointed, falcate, outer border slightly incurved at 3-4. Ground colour black, slightly brownish at base, where the veins are brownish. A creamy white bar crosses the wing from sub-apex to the hind margin, made up of five separated spots of increasing size from a small spot at costa to 5, the three upper spots arranged vertically, the spot in 4 set in a little, followed by spots of increasing size and conjoined; this bar is really made up of four postdiscal spots, the lower ones merging into the discal line and often represented by a glaucous blue border, frequently quite strong; thus the bar is often straight on the inner edge of the lower portion, the increase in size being on the distal side. Margin without any pale spots. Hind wing black, shading to greyish black on the inner fold; the disc of the wing crossed by a creamy white bar, 3 mm at the costa then widening to space 2, where it tapers to and crosses the inner fold, above the anal angle, the expansion of the bar often glaucous blue, most evident on the outer border. No marginal spots, edge slightly dentate; tails short, 3-2 mm. *Underside.* Ground colour of both wings satiny greyish, with a more brownish tinge to proximal side of the white bars of both wings and to a lesser extent on the distal side, though strong in the curve of the fore wing. Base of fore wing costa whitish, shading to brownish beyond; cell with three sub-basal black dots and a wavy line beyond, with finer lines in sub-bases of 1b-2, that in 2 often heavy. The inner edge of the white bar is accentuated by black lines from 1a-3, the outer margin similarly bordered, separating the bar from a series of white and ochre lunules and represented in 1b by a conspicuous round or angular black mark; beyond there may be a series of obscure darker submarginal marks, Hind wing ground colour as fore wing but basal area slightly darker, the dark zone of proximal side of white bar stronger; fine black lines in basal area limited to upper half; white bar distinct, greyish on distal edge, almost parallel-sided to 1c, then narrowing and crossing the inner fold above the anal angle; on its distal side there is a complete series of thin black lines accentuating the series of ochre-olive lunules which extend from the costa to the anal angle, where the olive expands and extends up the margin, internal to which is a series of lilac-whitish spots with black dots, double at anal angle; extreme edge black.

FEMALE. Fore wing length 39 mm. *Upperside.* General colour and pattern similar to that of male, but duller, the white bars of both wings wider. The ground colour of the fore wing is brownish black, slightly darker on the outer border. The creamy white bar similar in form to that of male; the upper postdiscal spots similarly separated to 4, the rest contiguous, but there is a slight indication of separation of the bar into two, from 1b-4, by the presence of fine black lunules. Width of bar at 1b-2, 4 mm, then narrowing. There is also an indication of whitish scaling in the discal line in 4-6. Hind wing ground colour brownish black in basal area, blacker on the border. The creamy white band is of about even width, 6 mm from costa to 2, then tapering and crossing the inner fold, the margins of the bar with greenish blue scaling, mostly apparent on the proximal side. The black border carries a series of obscure whitish marks from upper angle to hind angle. Margin of wing slightly dentate; tails short and stumpy, 4 and 3 mm. *Underside.* Ground colour of fore wing satiny bluish grey, somewhat like that of male; the discal-postdiscal white bar clearly defined and with greater indication of separation of the two series of spots by crescentic black lines. The submarginal series of dark spots more visible, as also is the dark shading on the margin of the wing; the black tornal mark in 1b distinct. Hind wing ground colour as in the male, the white band well defined; the series of

ochre-olive lunules, black lined proximally, more distinct, so also the ochre-olive marginal border; extreme edge black. The submarginal series of whitish lilac marks accentuated by black distally, clearly visible.

Range: Ashanti and Lagos to Cameroun, Gabon, N. Angola and western Congo.

Charaxes hildebrandti katangensis Talbot

(Pl. 1, fig. 3, Map 1)

Charaxes hildebrandti katangensis Talbot, 1928 : 229.

Described from two males taken at Kinda, Katanga by F. G. Overlaet. Talbot states that these have the white bands of the upperside of both wings with only slight blue edging and the band of the hind wing slightly broader anteriorly. The underside is pale with paler yellow postdiscal spots, which in the type are obsolete.

Range: Apparently confined to Katanga, Congo (Kinshasa).

SYSTEMATIC LIST

Charaxes hildebrandti Dewitz

Charaxes hildebrandti Dewitz, 1879. Type locality: Angola.

Range: Ashanti, Lagos, Nigeria, Cameroun, Gabon, Bena Bendi, Angola, Congo (Kinshasa).

Charaxes hildebrandti katangensis Talbot, 1928. Type locality: Katanga, Kinda.

Range: Katanga, Congo (Kinshasa).

2. *CHARAXES THYSII* CAPRONNIER AND *C. HADRIANUS* WARD AND
ITS SUBSPECIES

Charaxes thysii Capronnier

(Pl. 1, fig. 4, Map 1)

Charaxes thysii Capronnier, 1889 : 125, n. 70.

MALE. Fore wing length 32 mm. Shape not strongly falcate, but margin very bluntly dentate. *Upperside*. Fore wing, ground colour deep blue-black; a series of blue spots cross the wing in the postdiscal line, the three sub-apical in a row, elongate in shape, the upper one small, followed by a rounder spot in 4 set in a little, with a larger spot in 3 set at an angle to one above, so that the series is here kinked, the remaining spots of increasing size, more quadrate, that on the hind margin 4 mm. There are two somewhat obscured blue spots submarginally in 1b with the faintest trace of spots in cellules above. Hind wing, ground colour blue-black shading to brownish grey on the inner fold; border of wing blacker. A blue bar crosses the wing from the costa to short of the hind angle, but represented on the inner fold by a whitish mark; the costal spot does not reach the margin and is 4 mm in length, followed by larger marks in 5-6 projecting inward, the lower spots gradually taper to above the hind angle, thus the band



MAP I.

is almost straight on its outer margin and kinked on its inner, represented on the inner fold by a very small vertical streak. Admargin with a series of purplish blue lunules from region of the tails to 4; spots at anal angle greenish blue; edge of wing bluntly serrate, with fine white fringe; tails thin and sharply pointed, of about equal length, 5 mm, black with blue mid-line. *Underside*. Fore wing ground colour a distinctive and very striking silvery white; the basal silvery area with three black spots in sub-base of cell, a zigzag line beyond and a black line at end of cell; heavier black lines sub-basally in 1b and 2, followed by a slightly curved line through the sub-bases of 3-6, and continued in 1b and 2 by broken lines. The discal line is crossed by a chocolate-brown bar, distally accentuated by a black line. Distal portion of wing with veins scaled with brown, the interspaces with less strong, long, arrow-shaped marks with points directed towards the marginal border, which is brownish, narrowly edged in black, the bases of the arrow-marks with silver-white marks adjacent to the postdiscal line; the tornal black marks are strong, double and elongate in 1b and represented in 2 by a free spot. Hind wing, the basal silvery area crossed by an almost straight brownish line accentuated in black on proximal side and by black spots on distal edge, the black marks more lunate towards the anal angle, where the brown bar shades to olive; the basal area of the wing has a vertical, thin 'V' mark, base toward costa and extending towards the lower arm of the cell, followed in turn by a thin, almost vertical line in the discal zone, running from the costa to above the anal angle, where it turns at right angles and crosses the inner fold. The border of the wing, distally to the heavy bar, has on its margin brick-red lunules accentuated proximally by black triangles shading to olive at the anal angle; edge of wing black with narrow white fringe.

FEMALE. This apparently is not known.

Range: Originally described from the Kasai district of western Congo, the species has since been taken elsewhere in the Kelle area of the Moyen Congo, Congo (Brazzaville).

Charaxes hadrianus Ward

(Pl. I, figs 5, 6)

Charaxes hadrianus Ward, 1871 : 120.

Charaxes dux Staudinger & Schatz, 1886 : 170.

Charaxes gabonica Crowley, 1890 : 553.

MALE. Fore wing length 45-47 mm. Shape, apex bluntly pointed but outer margin not incised; hind wing margin bluntly dentate. *Upperside*. Fore wing, base of wing and the bases of 1a and 2 bright chestnut; the distal 2/3rd of the wing black, with a pattern of creamy white spots, those in the discal line of increasing size starting at the end of the cell with an elongate quadrate spot, followed by a larger quadrate spot at the sub-base of 3, a larger more angular mark with projection distad along 2, set in a little, then larger, more elongate in 1b and 1a, the ends shaded with bluish grey. Two small rounded spots present at about mid-point in 6 and 5; the spots in the submarginal line are small and rounded in the sub-apex, then larger in 3 and 2; the hind angle with an oval spot at end of 1b. Hind wing creamy white with slight smoky suffusion at base, the disc of the wing immaculate, though the dark transverse bar of underside shows through. The submargin carries a series of black linear marks, heavier and tending to be conjoined in the region of the tails, a black mark at right angles present at the anal angle; margin with black portions extending up the tails; extreme edge white. Tails comparatively short, 5 and 3 mm long and sharply pointed. *Underside*. The basal portion of the fore wing, corresponding to the chestnut area above, is matt white shading to grey at the base of 1b, where there is an elongate smoky brown streak; the distal portion of the wing is satiny silvery grey, varying with the direction of light, with the white spots of upperside faintly indicated, but the creamy areas of 1a-1b stronger; a double black line indicates the end of the cell, and lesser variable black lines may be present in sub-bases of 1b and 2. A conspicuous feature of the

underside is the large pear-shaped black spot in 1b at the hind angle. Hind wing, ground colour white or silvery cream with a few discontinuous black lines crossing sub-bases of 3-7; the most striking feature is the chestnut bar, of almost even width extending from the costa to the inner fold at the anal angle, this bar though irregular on the distal edge, especially in 7, is accentuated by black edged with white. Submargin with a series of black dots corresponding in position to the black lines above, but here greyish; edge black, strongest on the tails.

Range: Cameroun, Gabon, Congo (Brazzaville), Congo (Kinshasa), extending eastwards to the Semliki Valley. [For Map, see Part IX, to follow.]

Charaxes hadrianus lecerfi Lathy

(Pl. I, figs 7-9)

Charaxes hadrianus lecerfi Lathy, 1925 : 94.

Charaxes hadrianus Ward; Rothschild, 1900 : 400.

MALE. Fore wing length 45 mm. *Upperside*. Coloration and pattern very similar to the nominate race, but differing mainly in the increased size of the white spots in sub-bases of 5 and 6 of the fore wing; the increased size of the creamy white discal marks throughout, especially those from hind margin to 3, the increase in size being mainly on the distal border, so that the mark in 2 is in contact with the larger white postdiscal spots in that area. There is, thus, a resemblance in the pattern to that of the female of the nominate race. Hind wing with slightly reduced dark basal area, but marginal dark border heavier, especially at the upper angle which encloses two white spots; these white spots visible and extending to the hind angle edged proximally in greyish; the submarginal black linear marks more contiguous, thus accentuating the marginal white border; edge black. *Underside*. Ground colour and pattern very similar to that of nominate race, distal portion of wing less shaded, but the black spot at the hind angle in 1b strong. On the hind wing, the dark discal bar is slightly wider, less straight and tending to curve toward the inner fold above the anal angle; the border is more greyish, so that the upper black spots are not so conspicuous.

Range: Nigeria and Ghana; possibly extending westward to Sierra Leone where it may be represented by a separate subspecies.

SYSTEMATIC LIST

Charaxes thysii Capronnier

Charaxes thysii Capronnier, 1889. Type locality: Kasai, S.W. Congo.

Range: Western and Moyen Congo, Congo (Brazzaville).

Charaxes hadrianus Ward

Charaxes hadrianus hadrianus Ward, 1871. Type locality: Cameroun.

Range: Cameroun, Gabon, Congo (Brazzaville), extending eastwards to Semliki Valley.

Charaxes hadrianus lecerfi Lathy, 1925. Type locality: Warri, Nigeria.

Range: Nigeria and Ghana and possibly extending to Sierra Leone.

3. *CHARAXES IMPERIALIS* BUTLER AND ITS SUBSPECIES

The nominate race was described from the Gold Coast and Sierra Leone; other subspecies have been described from Cameroun, S. Congo and Malawi, thus the pattern of subspeciation follows that of many species with an east to west distribution.

Charaxes imperialis imperialis Butler

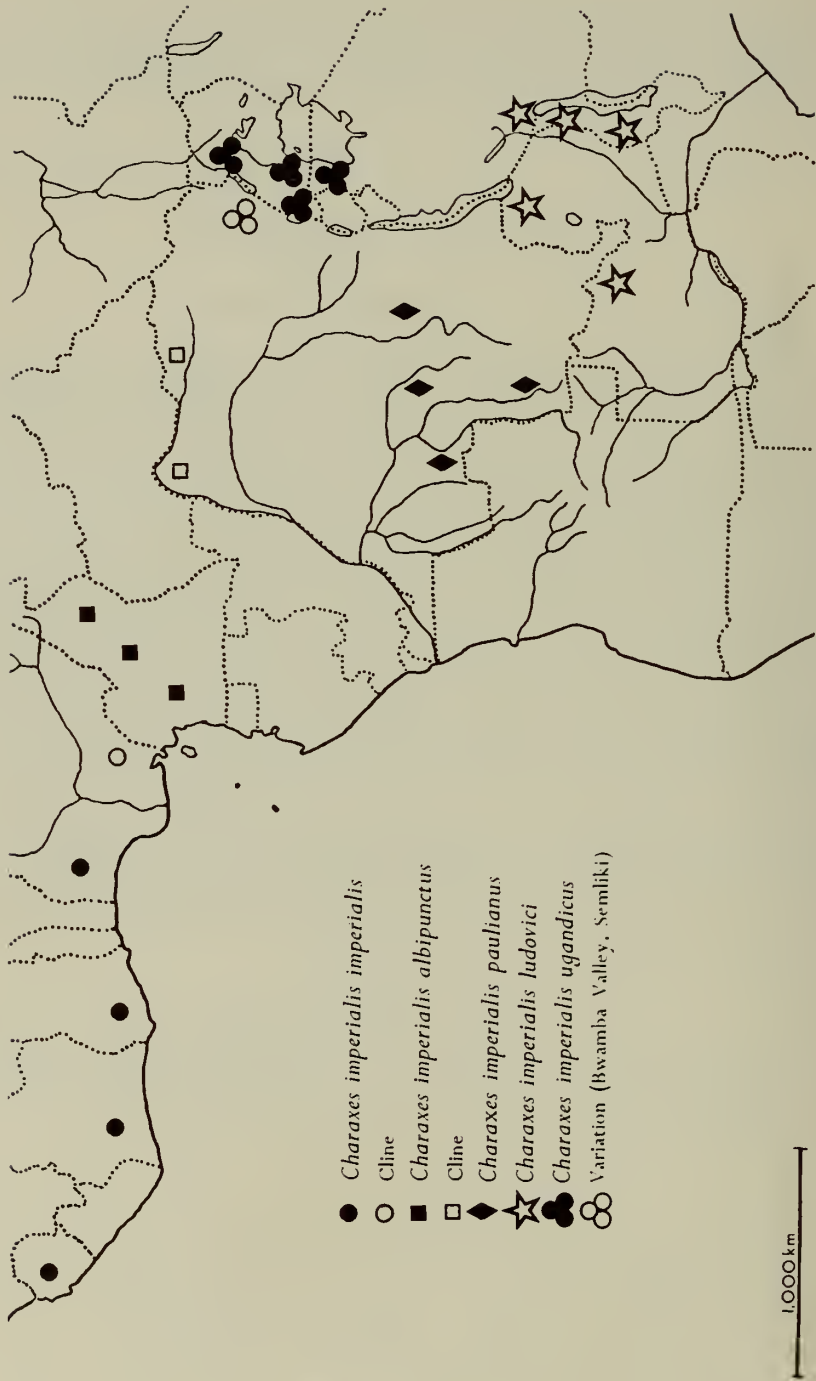
(Pl. 2, figs 10-15, Map 2)

Charaxes imperialis Butler, 1874 : 531, T. 11, f. 3; Butler, 1887 : 570, n. 26.

MALE. Fore wing length 40-48 mm; shape, apex rather pointed, outer margin slightly concave from 2-5, hind angle projecting slightly in 1b. *Upperside.* Fore wing, ground colour blue-black; costa and basal veins brownish. Two small white subcostal dots in the cell with a larger one at its end; two small white spots in the upper discal line followed by a series of spots of increasing size from white spots in the sub-apex, those from 5 to hind margin blue, the mark in 1b quadrate. Hind wing ground colour blue-black, slightly brownish at costa and shading to greyish black on the inner fold. Disc of wing bisected by a blue band of semi-detached spots, tapering slightly towards, but not encroaching on the inner fold, represented in the sub-costa by a white spot. Submargin with a series of blue triangular spots, double at anal angle; admargin with interrupted blue lunules, the blue extending up the tails which are short and sharply pointed, 4 and 2 mm long. *Underside.* Brownish grey with a slight olive-ochreous tinge. Pattern not strong, consisting of three thin black transverse lines in the cell, the middle one divided into two spots, all outlined in white, a straighter black line at end of cell, and sub-basal black lines in 4 and 2 and an angled mark in 1b. In the discal line there are small whitish triangular marks followed by thin black lines in 1b-3. In the postdiscal lines are whitish spots, corresponding to the blue spots of upperside, distally shaded with olive-ochreous, the mark in 1b lined with black proximally and with a bold black horse-shoe spot distally and with a small black spot in space above, forming a conspicuous 'eye-spot'. Margin of wing slightly shaded with olive-ochreous at hind angle. Hind wing ground colour as fore; basal area crossed by thin black lines outlined in white; a similar series in the discal line, followed by a row of whitish lunules outlined in black proximally and shaded with olive-ochreous distally, the mark in the anal angle stronger; the submargin with a row of whitish lilac linear marks with black dots distally; border olive-ochreous with white shading at end of veins, edge black with narrow white fringe; anal angle with twin black spots.

FEMALE. Fore wing length 45-48 mm. *Upperside.* Ground colour of fore wing brownish black with blue sheen at base. A crescentic white mark at end of cell and a series of larger whitish spots in the discal line from sub-costa to 2, represented on the hind margin in 1a-1b by a blue quadrate patch, linking up in these areas with the postdiscal series of buffish ochreous spots of decreasing size, curving toward the costa in sub-costa in 5-7. Margin with a series of buffish ochreous spots, double at hind angle, decreasing in size to apex. Costa of wing brown. Small whitish spots are sometimes present in the subcostal region of the cell. Hind wing ground colour darker than fore wing, especially on the border. Disc of wing with a blue patch, sometimes extending basad in the cell and represented in the subcosta by one large white spot and a small buffy spot more distad. Submargin of wing with buffish ochreous spots decreasing in size from upper angle to anal angle where the spots are double. Margin of wing with interrupted buffish ochreous lunules; edge black. Tails thin and pointed, upper 6 mm, lower 4 mm. *Underside.* Ground colour as in the male, sometimes of a colder greyer tone; pattern similar to that of male, the fore wing spots rather more prominent. Hind wing pattern as in the male.

Range: Sierra Leone, Ivory Coast, Ghana, to western Nigeria; ? Liberia.



MAP 2.

***Charaxes imperialis albipunctus* Joicey & Talbot**

(Pl. 3, figs 16-21, Map 2)

Charaxes imperialis albipuncta Joicey & Talbot, 1921 : 68.

Joicey and Talbot based this race mainly on the fact that female specimens from Cameroun had white spots on the fore wing. As I have no topotypical examples from the Ja River at Bitje, I take the liberty of quoting the original description:

'Male, upperside of fore wing not constantly different from typical form. Hind wing with a broader band in most specimens. The inner spot in cellule 7 is blue or only slightly white. Underside of fore wing with the yellow proximal border to the black submedian spot edged with blue, and this again with black proximally. Hind wing with the postdiscal bar in cellule 7 either without white distal scaling or with only a trace of it. Female, upperside of fore wing with the spots white and smaller than in typical form. The black inner marginal band is reduced anteriorly and does not reach vein 2. Hind wing with the band not reaching vein 7. The outer spot in cellule 7 smaller and without any brown tinge. Submarginal and marginal spots white. Underside as in the male. Fore wing with spots as above. No spot bordering the submedian bar. Hind wing with postdiscal spots further from the discal bars than in typical form.'

No measurements are given.

One is well aware of the fact that within the area termed the Cameroons (Cameroun), there are many species with a restricted distribution, but nevertheless, it is of interest to note that in the case of *Ch. imperialis*, female specimens from the border between Cameroun and Congo (Brazzaville), at Ouesso, are not white-spotted, nor are the females from eastern Nigeria, at Ikom. It is of interest to note that Talbot places males from the Beni-Ituri forests of eastern Congo with *albipunctus*, but whether this is supported by white-spotted females he does not say. It is also worth noting that males from the adjacent Semliki River at Bwamba Valley are similar to males from eastern Nigeria and western Congo examples, but the females are not white-spotted, and they differ markedly from examples of ssp. *ugandicus* ssp. n. from the western shore of Lake Victoria at Katera.

The probability is, that if females in Cameroun are always white-spotted, the race *albipunctus* is limited to that area only and does not extend east to Uganda!

***Charaxes imperialis ugandicus* ssp. n.**

(Pl. 3, figs 23, 24, Map 2)

Charaxes imperialis albipuncta Joicey & Talbot; van Someren, 1935 : 12, T. 25.

We are faced with an additional problem in Uganda, for as already stated, the males from the Bwamba Valley east of the Semliki River, are very similar to males from eastern Nigeria. The white spots in the basal half of the fore wing may be absent or limited only to a minute dot at the end of the cell, or the discal spots may

be present. The postdiscal row of blue spots is very similar to that of east Nigerian examples, the subcostal sub-apical spot may be white or blue. The hind wing blue patch is broader than central Uganda examples.

Thus *Ch. imperialis* in Uganda presents an interesting problem, not only from the point of view regarding males, but also the females. Bwamba females are smaller than those from Katera on the west shores of Lake Victoria, with a fore wing length of 47–50 mm. The fore wing ground colour is browner, the spots are smaller and the postdiscal spots are not as rich orange as in Katera examples; the blue patch on the hind margin is more broken up. The hind wing blue patch is restricted; the white spot on the costa is large, the outer one usually a dot. The submarginal row of yellow-ochre spots may be small or large. The underside pattern may be reduced and faint or strong. Tails thin and pointed, 5 and 3 mm.

MALE. Fore wing length 45–52 mm. Shape similar to other races. *Upperside.* Fore wing, ground colour blue-black with strong greenish blue sheen at base and over the cell. Pattern similar to that of other races; spots at end of cell and in discal line white and larger than in other subspecies; the series of spots in the postdiscal line bright blue, the marks in 1a–1b (particularly the latter) narrow, that in 2 ovoid, the spots above and in sub-apex small and mostly whitish. Hind wing, ground colour as fore wing, the outer border wider than in other races, due to a reduction in the width of the blue, which does not extend so far toward the inner fold; the inner spot in 7 is large and white, that beyond, blue. The submarginal series of blue spots well developed; the interrupted admarginal blue lunules usually extending to 6. Tails very short, upper, 2 mm. *Underside.* Ground colour clay-brownish grey, with a slight satiny sheen mainly in the curve of the fore wing and border of hind wing. An occasional specimen has a more brownish tone. The rather sparse markings are subdued, but similar in distribution to that of other races; the conspicuous feature is the ocellus at the hind angle of the fore wing.

FEMALE. This is noted for its large size and strong coloration; length of fore wing 52–57 mm. Shape like the male but hind wing more rounded at hind angle. *Upperside.* Fore wing, ground colour brownish black with a purplish sheen at base. The white spot in the cell end is round, the two in the upper discal line angled, those in sub-bases of 2 and 3 angled or ovoid; spots in the postdiscal row are bold tawny orange in colour, the largest being in 2 and 3, that in 1b small and fused with the blue patch in 1a–1b, the whole patch rather narrow, the longest mark being in upper part of 1b. Margin of wing with distinct orange triangles with a fringe of white on edge opposite each spot. Tails rather short, upper 6 mm, lower 3 mm. *Underside.* Ground colour clay-brownish grey or paler ochreous grey. The black wavy transverse lines in the cell are thin, and edged with white; those in sub-bases of 1b and 2 heavier, the whitish spots in the discal line are outlined in black proximally; the postdiscal series are represented by lilac white lunules strongly shaded ochreous distally and edged in black; the tornal black loop mark in 1b is strong, distally shaded with whitish. Hind wing, ground colour as fore wing; the basal black lines thin, those in the discal line offsetting a series of whitish lunules or just whitish shading distally; the postdiscal sinuate line of narrow lilac-white lunules, shaded ochreous olive distally, are edged internally in black, strongest at the anal angle. The submargin carries a complete row of lilac-white spots, not sharply defined, but those in the region of the tails with a black spot distally, double at anal angle; border of wing with ochreous lunules shaded whitish distally; anal angle with olive ground; edge of wing somewhat darker greyish, narrowly fringed with white; tails outlined in greyish olive as edge.

Holotype ♂. UGANDA: Katera Forest, Masaka District, west shore of Lake Victoria (*van Someren*), in B.M.(N.H.).

Allotype ♀. UGANDA: Katera Forest, Masaka District (*van Someren*), in B.M.(N.H.).

Range: Uganda, central and western; Katera Forest, west shore of Lake Victoria, Budongo Forest, Bugoma Forest. Kibale Forest, Toro. Local variation, Bwamba Valley, east side of Semliki River.

♀ f. *caerulipunctus* forma n.

(Pl. 3, fig. 22)

Some Bwamba females have the discal and postdiscal spots of the fore wing blue in colour and bold (Bwamba Valley, Grahame Coll.). A blue spotted variation is also found amongst these examples. The hind wing blue patch is rather broken up, but the submarginal and marginal marks are bold.

Charaxes imperialis paulianus Rousseau-Decelle

(Pl. 4, figs 25, 26, Map 2)

Charaxes imperialis pauliana Rousseau-Decelle, 1933 : 269.

MALE. Fore wing length 45 mm. Shape as in other races. *Upperside*. Fore wing ground colour blue-black; costa brownish. Pattern of blue spots similarly arranged to that of other races, the row of postdiscal spots slightly stronger blue, the spot in the cell white, those beyond in the discal line tinged with blue as are the small upper spots in the postdiscal series. Hind wing, ground colour and pattern as in other races, the hind end of the blue patch fading out somewhat as it nears the inner fold. The submarginal spots strongly blue; the broken marginal border blue but limited almost entirely to the region of the tails and hind angle. *Underside*. Ground colour rather browner than in other races, but pattern very similar; there is, however, a dark triangular subcostal spot beyond the end of the cell. The hind wing ground colour slightly darker, the pattern rather obscured except for the subcostal whitish spot in discal line, and the submarginal pale spots; the blackish sub-basal spot in 5 more distinct.

FEMALE. Fore wing length 50 mm. *Upperside*. Fore wing, ground colour and pattern as in other races but the blue mark rather reduced, so also that of the hind wing but the white costal spot in the discal line large; the submarginal spots also large. *Underside*. This reflects the reduction in the blue areas but in the fore wing the spotting is well developed; this also applies to the hind wing, the submarginal row of light spots being a strong feature.

Range: So far recorded only from the Katanga area of S.E. Congo (Kinshasa).

Charaxes imperialis ludovici Rousseau-Decelle

(Pl. 4, figs 27, 28, Map 2)

Charaxes imperialis ludovici Rousseau-Decelle, 1933 : 211.

MALE. Fore wing length 45 mm. *Upperside*. Fore wing, ground colour blue-black with greenish sheen at base, costa chestnut-brown. Spot at end of cell and upper discal row white and distinct, the postdiscal blue spots whitish and slightly angular, the mark in 1b somewhat narrow, that in 1a extended distad. Hind wing blue patch rectangular and extending slightly into the inner margin, the two costal marks large and distinct; the submarginal blue spots large; the upper tail longer than in other races, 6 mm, that at hind angle, 2 mm. *Underside*. Ground colour paler than in other races, but markings similar; on the hind wing the postdiscal sinuous line of pale lunules with darker shading distally so that the line shows up more clearly.

FEMALE. Fore wing length 48 mm. *Upperside*. Fore wing, ground colour brownish black, paler and more olive toward the base and along the costa; pattern of light spots arranged

as in females of other races but the blue patch at the hind margin connecting up the discal and postdiscal spots in that area reduced in size, especially that in 1a; the discal spots and that at end of cell whitish, those in the postdiscal row ochreous. The outer margin with well developed creamy spots extending from the hind angle to the apex. Hind wing, ground colour blacker than fore especially on the broad border of the wing. The blue patch not sharply defined, its distal border 'toothed' and dull blue, not reaching the inner fold which is ashy grey. The submarginal row of ochreous spots strong, the two spots in the subcosta large and whitish; the interrupted marginal border strongly marked. Tails longer and sharply pointed, upper 8 mm. *Underside*. Ground colour slightly darker than that of male; pattern of light spots in the fore wing slightly stronger, that of the hind wing equally indistinct, the ocellus in the hind angle of the fore wing being a strong feature.

Descriptions taken from a pair captured on the Lisombe River, Zambia (*C. B. Cottrell*). These are, perhaps, not quite typical since the type specimens are from the north-eastern area of Malawi (Nyasaland) (teste Gifford).

Range: Malawi and adjacent Zambia.

SYSTEMATIC LIST

Charaxes imperialis Butler

Charaxes imperialis imperialis Butler, 1874. Type localities: Sierra Leone (♂), Ghana (♀).

Range: Sierra Leone, Ghana, Old Calabar, ? Nigeria.

Charaxes imperialis albipectus Joicey & Talbot, 1921. Type locality: Bitje River, Cameroun.

Range: Cameroun and ? Northern Congo.

Charaxes imperialis paulianus Rousseau-Decelle, 1933. Type locality: S. Congo, Katanga, Kafakumba.

Range: S. Congo, Katanga Prov.

Charaxes imperialis ludovici Rousseau-Decelle, 1933. Type locality: Lake Nyassa. Range: Malawi, L. Nyassa and adjacent Zambia.

Charaxes imperialis ugandicus ssp. n.

Range: Uganda, west shore of L. Victoria, Katera Forest; Budongo and Kibali forests in western Uganda.

Charaxes imperialis ♀ f. *caerulipunctus* forma n. Type locality: Bwamba, Uganda. Range: Variations in the Bwamba Valley, east side of Semliki River.

4. *CHARAXES AMELIAE* DOUMET AND ITS SUBSPECIES

Charaxes ameliae ameliae Doumet

(Pl. 4, figs 29, 30, Map 3)

Charaxes ameliae Doumet, 1861 : 171, T. 5, f. 1.

Charaxes ameliae Doumet; Hewitson, 1876 : T. 49, f. 21-22.

Charaxes regius Aurivillius, 1889 : 191.

MALE. Fore wing length 46-48 mm. *Upperside*. Fore wing, ground colour deep blue-black; pattern limited to a series of blue spots in the subcostal region and postdiscal line as



follows: an elongate mark at the upper part of the base of the cell, often with a black dot just short of the centre; some blue scaling along the costal vein; a quadrate spot at the end of the cell, and three blue marks, the middle one largest, in the sub-base of 5-7. A postdiscal series of blue spots increasing in size from subcosta in sub-apex to the hind margin, the upper four in a curve, that in 3 set in a little, that on the hind margin sometimes a streak, there is also a blue streak in the lower basal area of 1b. Margin with a series of small blue spots, double in 1b. Hind wing ground colour blue-black shading to ashy grey on the inner fold; disc of wing with a crescentic blue mark from base of 3 and the end of cell and tapering at base of 3, represented on the subcosta by a separate blue spot. Margin of wing with a series of rounded blue spots, double at anal angle; marginal border with blue lunules. Edge bluntly dentate, tails short and robust, upper 3-4 mm, lower 2 mm. *Underside*. Ground colour brownish grey with olive tinge, paler at the base of the cell and bases of 1 and 2, somewhat variable. Basal black marks strong, three black marks at basal half of cell followed by a thin wavy line and a thinner one at end of cell, and stronger black lines sub-basal in 1b and 2, followed by a series of curved thinner lines on inner discal line, those in 1b joined by a black line, these spots and lines outlined in white. In the postdiscal line is a series of spots of increasing size, the three upper ones small, with some dark shading distally, the lower spots large, that at the tornus and space above, black-centred and outlined in black proximally forming conspicuous 'eye-spots'. Marginal edge narrowly white. Hind wing ground colour as fore wing, with a paler bar in sub-basal area, thinly outlined in black and extending from the costa to short of the inner fold, followed by a discal pale bar outlined proximally in black. In the postdiscal line a series of whitish lunules, that in 5 set well in and distally shaded with darker colour ending at the anal angle in a double thin black crescentic mark. The submargin with a complete series of pale whitish spots with slight black distally ending in the double back dots in the anal angle. Marginal border brownish grey, edge very narrowly white. There is some slight variation in the spotting on the upperside, mainly in regard to the width of the blue patch in the disc of the hind wing.

FEMALE. Fore wing length 46-52 mm. Shape as in the male. *Upperside*. Fore wing, ground colour umber-brown, shading into black at end of cell, outer half of wing black. There is a large semi-quadrate white spot just beyond the end of the cell, and beyond, in the discal line two elongate spots and a streak in subcosta above; no spot in 4 but those in 3 to the hind margin increasing in size, the mark in 1a is 8 mm. All these spots are creamy white. Postdiscal row of creamy white spots complete from sub-costa to 1b. Marginal internervular spots clear and distinct, of increasing size from apex to the double spot in 1b. Extreme edge very narrowly white, opposite the spots. Hind wing, ground colour at base umber-brown shading to ashy grey on inner fold. Border of wing black; disc crossed by a white band, 8 mm wide at the costa, rapidly decreasing in width, ending in a line which crosses the inner fold above the anal angle, the inner edge of this band is straight but with some bluish white scaling over the end of the cell, while the outer edge is irregular with toothed projections in the mid area to the costa, ending in two discrete white spots in 5-7. Submarginal series of round spots, white and large at the upper angle, decreasing in size and bluish in colour opposite the tails, ending in the double smaller spots of the anal angle. Admarginal row of white lunules complete, becoming bluish at the anal angle. Margin bluntly dentate, tails thin and sharply pointed, upper 6 mm, lower 3 mm. *Underside*. Ground colour as in the male, but pattern more contrasty, black marks at base of fore wing stronger, those in the proximal edge of the white discal bar strong. Postdiscal series of white spots as above but more strongly outlined in black proximally, and distally with a series of whitish ocelli with dark centres, very strong at the tornus and space above, less distinct above, but extending up to the sub-apex. Margin with pale spots of decreasing size from 1b to apex. Hind wing ground colour more brownish olive-grey to inner edge of white discal bar, which is crossed by a white vertical line, outlined blackish in 7-6, through the cell and sub-base of 1c. Discal white bar as above, clear-cut and almost straight on the inner edge, more dyslegnic on outer border. In the postdiscal line are whitish spots and crescentic marks distally shaded with diffuse olive-brown. Triangular white spots present on the submargin with black spots distally in region of tails and separated from the marginal whitish lunules by an ochreous zone, turning olive at the anal angle. Edge black.

The above descriptions are taken from specimens collected in the Ivory Coast.

Range: Sierra Leone, Liberia, Ghana, Ivory Coast, Nigeria, Cameroun to northern Congo.

Charaxes ameliae victoriae ssp. n.

(Pls 4, 5, figs 31-36, Map 3)

Rothschild gives the measurements of West African specimens as ♂ 38-44 mm, ♀, 42-54 mm. A long series from Uganda are noticeably larger, the fore wing measurements are ♂ 47-50 mm, the majority 50; ♀ 51-58 mm, majority 57 mm.

This is in keeping with the large majority of species with a west to east distribution, the eastern aggregates being generally the larger. As in many, the difference in size is accompanied by constant differences in coloration and pattern in one or both of the sexes.

MALE. *Upperside*. Ground colour as in the nominate race, deep blue-black, the pattern of blue spots similarly arranged but larger and bolder. *Underside*. Pattern as in nominate *ameliae*, but ground colour not so dark, less brownish thus the pattern is not in such contrast.

FEMALE. *Upperside*. Larger than the nominate race, the fore wing spots larger, creamy to ochreous in colour; the marginal spots in the fore wing larger. The marginal and submarginal spots in the hind wing more prominent. *Underside*. Ground colour less dark, but pattern bolder owing to increased size of light markings.

Holotype male. UGANDA: Katera Forest, west shore Lake Victoria (*van Someren*), in B.M.(N.H.).

Allotype female. UGANDA: Katera Forest, west shore, Lake Victoria (*van Someren*), in B.M.(N.H.).

Range: Uganda, from the Semliki Valley and western Uganda, including the south-west, to Busoga in the east.

Charaxes ameliae amelina Joicey & Talbot

(Pl. 5, figs 37-39, Map 3)

Charaxes ameliae amelina Joicey & Talbot, 1925 : 644.

This 'race' was based on the fact that in Malawi all the females are white-spotted, not creamy. Attention was drawn to this fact by Rothschild, 1900, who however pointed out that 'white-spotted' females also occurred in the western aggregate, but did not state in what proportion; moreover his 'nominate race' embraced specimens from Sierra Leone to the Niger and Congo in the region of Beni. I have already drawn attention to the fact that specimens from western Africa are smaller than specimens from Uganda; moreover, in a series of 16 examples from Uganda, only one has the spotting of the fore wing white, the rest are creamy or even ochreous. Malawi specimens are larger than west African examples. On this evidence I support the recognition of the 'race' *amelina*.

MALE. Fore wing length 48–50 mm. *Upperside*. Fore wing, ground colour deep blue-black, with a strong blue sheen; pattern of blue marks on both wings bolder than in nominate race and more like those of the Uganda subspecies *victoriae*. *Underside*. Even paler than that of the Uganda subspecies, and much paler than nominate.

FEMALE. Fore wing length 48–52 mm. *Upperside*. Fore wing, ground colour as in other subspecies, but spotting of the fore wing as large as in the subspecies *victoriae*, that of the hind wing resembles more that of the nominate, the spotting on the border being smaller. *Underside*. Very similar to *ameliae victoriae*.

Range: Malawi, mostly in the forests of the Nkata Bay area and the Nyika; also recorded from the Mwinilunga area of Zambia. Specimens from the Kigoma area, N.E. of Lake Tanganyika, belong to this subspecies. There is no record from Katanga, but Schouteden records '*ameliae*' from the Belgian Congo without an exact locality.

SYSTEMATIC LIST

Charaxes ameliae Doumet

Charaxes ameliae ameliae Doumet, 1861. Type locality: Gabon.

Synonym. *Charaxes regius* Aurivillius, 1889. Kamerun.

Range: Sierra Leone to upper Congo.

Charaxes ameliae amelina Joicey & Talbot, 1925. Type locality: Malawi.

Range: Malawi, N. Zambia, ? Katanga.

Charaxes ameliae victoriae ssp. n.

Range: The Semliki Valley and western Uganda, including the S.W. area to Busoga in the east.

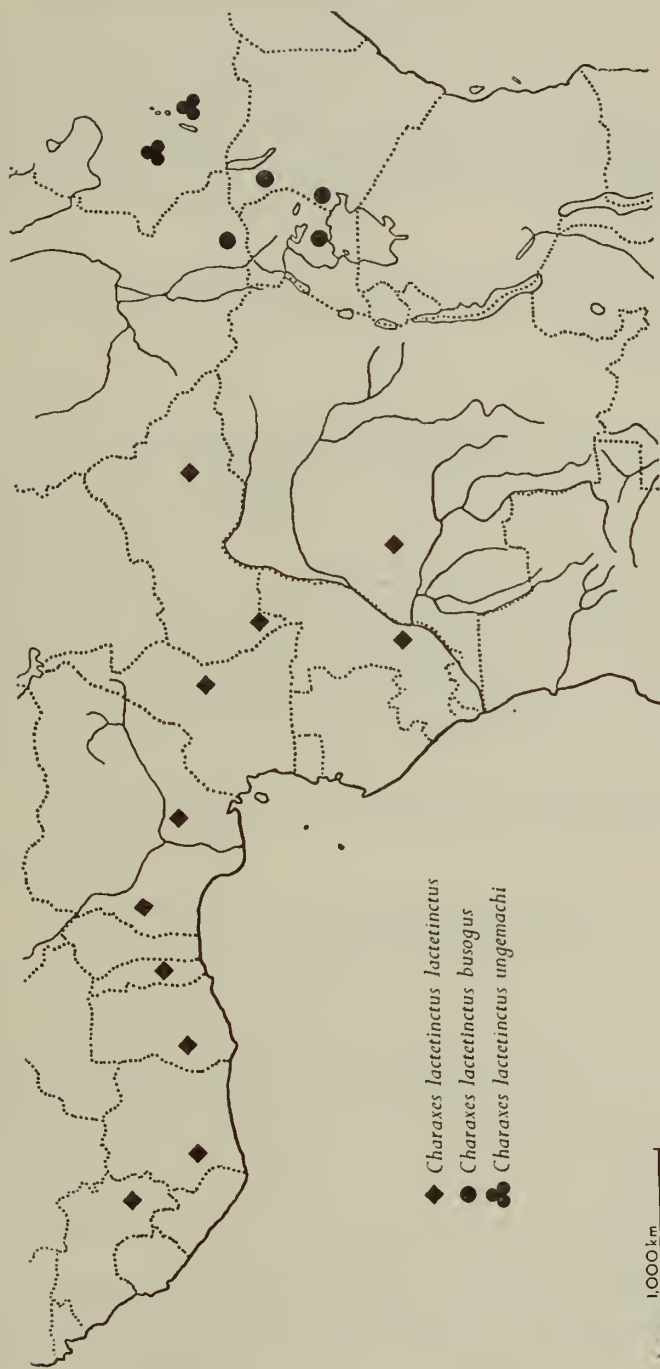
5. *CHARAXES LACTETINCTUS* KARSCH AND ITS SUBSPECIES

Charaxes lactetinctus Karsch

(Pls 5, 6, figs 40–42, Map 4)

Charaxes lactetinctus Karsch, 1892 : 113.

MALE. Fore wing length 38 mm; shape, apex rather pointed, outer margin concave in 3–4, hind angle projecting. *Upperside*. Fore wing, base from lower part of cell to mid hind margin bluish white, distal portion of wing black with tawny red spots in pattern from base of costa and upper part of cell, a tawny red spot at base of 4, and two quadrate spots beyond linking up with the series of tawny red spots in the postdiscal line, which extends from the costa to 2, sometimes represented in 1b by a small spot; border of wing from hind angle to apex tawny red. Hind wing, basal area bluish white, shading to greyish ochre on the inner fold; a large diffuse orange spot at mid costa separating the upper part of the bluish white base from the broadly black border; marginal border tawny rufous from upper angle to upper tail; submargin with greyish blue spots, large and distinct in region of tails, but small above, the mark on the anal angle more lilac, with white dots; margin at anal angle olive. Edge of wing black with slight white fringe to upper tail. Tails thin and pointed, 4–5 mm long, the lower tail fused at the base with the projecting anal angle. *Underside*. Ground colour purplish chestnut, especially on hind wing. The fore wing chestnut shades to purplish grey at bases of 1b and 1a. The underside pattern is remarkably scanty, consisting of two silver and black lines in the sub-base of the cell, 1b and 2, with bolder silvery line toward the end of the cell, slightly outlined in black. In the discal line at the costa is a triangular silvery mark, widest at 8 and tapering to 5; there



MAP 4.

is also an indication of the rufous spots of upperside, enhanced on either side in 1b-3 by black marks on the proximal side, and edged with black and bluish grey on the distal side in 1b, lessening in 2-3 and faintly indicated in spaces above. Hind wing almost immaculate in the disc, there are two small white spots in 8; in the postdiscal line there is an obscure continuous darker bar from costa to above the anal angle beyond which the border is more tinged with lilac, culminating in the distinct lilac edge to the rufous border, which has a series of greenish lines with central black dots, the black spots accentuated in the anal angle by the olive ground.

FEMALE. Larger than the male, fore wing length 44 mm. *Upperside*. General colour and pattern resembling that of the male, but bolder. The bluish white areas of fore and hind wing slightly more extended.

Range: The nominate race extends from Ivory Coast to Nigeria and Cameroun, Central African Republic, Congo (Kinshasa), Congo (Brazzaville), but is not yet recorded from Katanga.

Charaxes lactetinctus busogus ssp. n.

(Pl. 6, figs 43-46, Map 3)

Shape similar to western examples but slightly larger than the nominate race.

MALE. Fore wing length 42-43 mm. *Upperside*. Coloration and pattern very similar, but bluish white basal areas slightly more extended on both wings, the black border of the hind wing thus reduced in width. *Underside*. Pattern bolder, especially that of the hind wing.

FEMALE. *Upperside*. Basal bluish white areas more extended on both wings, the pattern bolder. *Underside*. Ground colour paler, but pattern more distinct and bolder.

Holotype male. KENYA: Busoga district, Broderick Falls Scarp (*van Someren*), in B.M.(N.H.).

Allotype female. UGANDA: Metu Hills, N.W. Madi, West Nile, v-vi.1954 (*van Someren*), in B.M.(N.H.).

♀ form *jacksonianus* van Someren

(Pl. 6, figs 47, 48)

Charaxes lactetinctus f. *jacksonianus* van Someren, 1936 : 174.

Upperside. Differs from the normal female in having the basal bluish white areas suffused over with tawny orange, especially in the region of the fore wing cell. The pattern of the fore wing generally larger and bolder, but paler; the black areas not so dark. On the hind wing the bluish white area is slightly suffused over with tawny orange especially at the mid-costa and along the distal border; the black border is not so dark. *Underside*. Ground colour of fore wing not so dark as usual, thus the pattern stands out more boldly; the black and silvery lines in the cell more developed. The pattern of the hind wing bold on a paler ground, and there is more silvery white in the basal area of the costa.

The type specimen was taken in the TransNzoia district of Kenya.

Range: Uganda, mainly in the central and eastern districts, and also found on the west side of Lake Rudolf and West Nile Districts, extending to the northwestern area of Kenya.

***Charaxes lactetinctus ungemachi* Le Cerf**

(Pl. 7, fig. 50, Map 3)

Charaxes lactetinctus ungemachi Le Cerf, 1927 : 144.

Described by Le Cerf from a male and two females from Youbdo (Birder), Ethiopia. The paratype female figured here well illustrates the subspecific differences noted by Le Cerf, which makes the repetition of the original description superfluous.

♂ form ***brunneus*** Carpenter

(Pl. 7, fig. 49)

Charaxes lactetinctus ungemachi ♂ f. *brunneus* Carpenter, 1935 : 359.

Fore wing length 36 mm. *Upperside*. Fore and hind wing basal areas mahogany-brown, without any trace of the bluish white usual in these areas in normal specimens; the brown of the hind wing merges into the black border.

Range: Ethiopia, Youbdo.

SYSTEMATIC LIST

***Charaxes lactetinctus* Karsch**

Charaxes lactetinctus lactetinctus Karsch, 1892. Type male in B.M.(N.H.). Type locality: Togo.

Range: Ivory Coast, Ghana, Togo, Cameroun, Central African Republic, Congo.

Charaxes lactetinctus busogus ssp. n.

Range: Uganda, Tororo, Majanji; N.W. Kenya: Broderick Scarp, Kabras, Busia, Saboti Hill, Kitale, TransNzoia, Lugari, Kitesh.

Charaxes lactetinctus jacksonianus ♀ form, van Someren, 1936, TransNzoia, S.E. Mt. Elgon.

Charaxes lactetinctus ungemachi Le Cerf, 1927.

Charaxes lactetinctus ungemachi ♂ f. *brunneus* Carpenter, 1935.

Range: Ethiopia, S.W.; Haete River.

6. ***CHARAXES TIRIDATES* CRAMER AND ITS SUBSPECIES**

Examination of a considerable series of *tiridates*, from various areas of its distribution from West Africa to East Africa, indicates that there is a considerable difference in the appearance in the populations in the two extremes, with transitionals in the intervening countries. I shall deal with these differences in the following arrangement.

Charaxes tiridates tiridates (Cramer)

(Pl. 7, figs 52, 54, Map 5)

Papilio Eques Achivus tiridates Cramer, 1777 : 100.*Charaxes tiridates* (Cramer); Doubleday, 1844. [Corrected type-locality: Ashanti, Gold Coast].*Charaxes marica* Fabricius, 1793 : 113. [Locality: 'Africa'. ♀ specimen].*Charaxes marica* Fabricius; Watkins, 1923 : 209.

MALE. Fore wing length 45–47 mm. *Upperside.* Fore wing, ground colour black, browner on the costa. A series of small blue spots in the upper median or discal line, not very strong, extend from the subcosta, just beyond the end of the cell, as a streak and a rounded spot, followed by two spots, set slightly out in sub-bases 3 and 2. Postdiscal spots, complete, upper one in subcosta small and white followed by blue spots in 6–5 set out slightly, spots in 4–3 set in, followed by a blue spot in 2 and double spot in 1b, occasionally a spot in 1a towards the hind angle. Marginal golden lunules well separated by black ground. Hind wing, black, slightly duller and shading to more greyish on the inner fold. A postdiscal row of brighter blue spots extends from subcosta to above the anal angle, the line slightly bent outward at 5–4. The submarginal series of blue white-centred spots extends from the upper angle to anal angle where spots are double; marginal ochreous lunules, divided at mid point, may be distinct or faint; edge black, slightly dentate, tails black, rather short and sharply pointed, 4 and 3 mm long. *Underside.* Fore wing, ground colour brownish olive, with two irregular darker bands crossing the wing, separated by a black zigzag line on the proximal side of the discal zone. Cell with three black wavy bars, and stronger black lines sub-basal in 1b and 2o. In the postdiscal line there is a series of slightly ochreous ocelli with dark centres, black in 2 and double in 1b; the subcostal spot in this line is whitish. Margin with more ochreous lunules separated by dark ground. Hind wing, ground colour as fore wing, slightly more brownish at base, which has three olive-ochreous spots thinly outlined in black; discal line with interrupted ochre-olive marks outlined proximally in black, followed by less strong marks of the same colour in the postdiscal line. Submarginal row of whitish spots, black on distal edge complete, ending in the double marks at anal angle where the ground colour is olive. Margin with faint broken lunules; edge narrowly black.

FEMALE. Fore wing length 47–52 mm. *Upperside.* Fore wing, basal area brownish olive, shading to blackish in upper part of cell and on proximal side of white wing bar, which extends from costa at about end of cell to just short of the hind angle, the bar consisting of three elongate marks at end of cell followed by a more quadrate mark in 3, a larger more obliquely shaped mark in 2, below which are two smaller, more ochreous spots in 1b in the hind angle. The distal portion of the wing is black with two angular white marks in the upper postdiscal line. Margin with two ochreous spots at hind angle in 1b, edge immaculate or occasionally with minute whitish internervular spots. Hind wing, ground colour brownish olive with a strong black distal border. An occasional whitish ochre spot is present on the subcosta in the discal line and a series of ill-defined paler ochre-olive spots or lunules on the proximal side of the black border. Border with a series of submarginal blue white-centred ovoid marks extending from the upper angle to the hind angle where the spot is doubled. Margin with rather broken narrow golden ochre lunules, strongest above upper tail then fading out; edge bluntly dentate, tails 7 mm and 4 mm. *Underside.* Fore wing, ground colour olive-greyish, more olive-brownish at base, wavy black lines narrowly outlined in white, present in the cell; bars at sub-bases 1b–2 stronger; black lines outlining the proximal border of the white bar strong. The white bar as upperside, the mark in 1b contiguous with the postdiscal ochreous and black mark at tornus and space above, the rest of the spots in postdiscal line smaller, more greyish ochre; the two subapical spots whitish; the submarginal series of greyish lunules become progressively more faint to apex. Edge with very small whitish internervular marks. Hind wing, more or less as in the male, but ground colour browner olive.

Descriptions taken from specimens from Ivory Coast and Ghana.

Range: The nominate race occurs in Sierra Leone, Guinea, Ivory Coast, Ghana and Fernando Po.

Charaxes tiridates intermediate cline

(Map 5)

Charaxes tiridates ab. *tristis* Schultze, 1914.

Specimens from this area are generally larger, pattern of upperside very similar but blue spots in fore wing usually slightly more distinct; marginal lunules bolder. On the hind wing the blue spots are bolder, especially those of the postdiscal series; marginal golden lunules narrow or broken. Underside very similar to nominate race but basal black bars stronger.

Range: Eastern Nigeria, Cameroun, Central African Republic, Congo (Brazzaville), western Congo, Kasai and Katanga to Lake Mweru. Also N. Angola.

Charaxes tiridates tiridatinus Rober

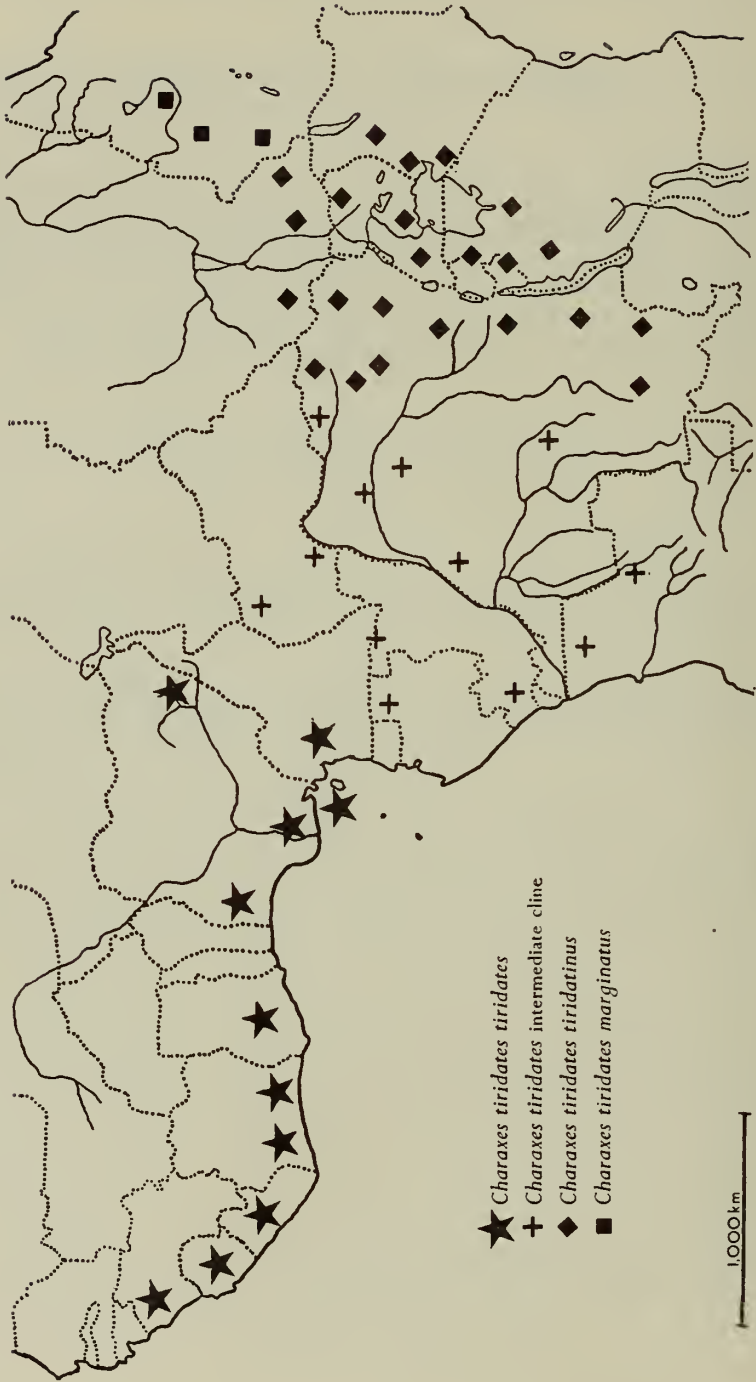
(Pl. 7, figs 51, 53, 55, 56, Map 5)

Charaxes tiridates tiridatinus Rober, 1936 : 577, f. 3.

Rober described *tiridatinus* as a 'form' or subspecies; the type was from Uganda. Since Uganda specimens are distinguishable from nominate *tiridates* of the Gold Coast, I accept this name for the Uganda subspecies.

MALE. Fore wing length 50–55 mm, majority 53 mm. *Upperside.* Fore wing, ground colour is a richer blue-black, slightly duller at base. The discal and postdiscal blue spots are larger, those of the discal line often extending to 1b where the spot is in contact with the postdiscal mark in the same area. The marginal golden lunules are larger. On the hind wing, the ground colour is blue-black, duller at base and shading to brownish on the inner fold. The postdiscal blue spots are larger and there is often an additional spot at the subcosta in the discal line. The submarginal blue spots with white centres often arrow-shaped with an extension distally. The golden marginal lunules usually very strong and well marked; the edge with golden fringe indented by black dentate margin; tails short, upper 4–5 mm, lower 2–3 mm. *Underside.* Very similar to that of the nominate, the ground colour rather more golden brown; the sub-basal black bars less in evidence, but the overall pattern is the same and there is some variation in the olive-ochreous lunules on the distal half of the wings.

FEMALE. Very similar to the nominate, but generally larger, fore wing length 57 mm, the largest 59 mm, the smallest 55 mm. *Upperside.* Fore wing, general pattern is similar, the ground colour brownish olive, sometimes with a golden flush especially to the fore wings. The black shading on the proximal side of the white bar more in evidence especially in the upper part of the cell, the costa, however, olive-brown except opposite the bar where it is whitish. The bar is usually white, except at the hind angle, where the spots are ochreous. In some examples the bar is strongly yellow-ochre, the spot in 4 usually smaller than in the nominate race. In the black distal half of the wing, the two sub-apical spots are large, and there may be ochreous spots in the postdiscal line reaching to 2, in some specimens. The two ochre spots in 1b at the tornus very distinct. On the hind wing the ochre costal spot is usually present, and in the postdiscal line the subcostal ochre-olive lunule is present, followed by a series of lunules on the inner side of the black border and reaching the anal angle, where they become obscured. The black border, widest at 6–7, tapers gradually, terminating at the anal angle. The series of blue spots with white centres complete, double at the anal angle. The marginal golden lunules usually very well marked, the spot at upper angle often large. The edge is narrowly golden



MAP 5.

ochreous with slightly white fringe. Edge of wing bluntly dentate, tails slender, upper 6 mm, lower 5 mm, black with narrow white along lower edge. *Underside*. Fore wing, base ochreous olive, with strong black lines outlined in white; the black marks sub-basal in 1b-2 strong. The distal portion of the wing darker, more brownish, setting off the white bar which is lined proximally in black. The postdiscal series of ochreous lunules (upper one whitish), together with the dark centres and paler outer border, form indistinct ocelli, becoming more distinct towards the hind angle where the central marks are black, the tornal double mark outlined distally with greyish lilac. Margin ochreous, well marked; edge with white fringe. Hind wing, ground colour and pattern as in the male; the postdiscal series of olive-ochreous lunules may be strong; the submarginal spots enhanced by black distally, double at anal angle, moderately clear; the golden marginal line of lunules distinct; fringe white.

Range: Western Uganda from Bwamba, Semliki Valley, Toro, to Kayonza in Kigezi; also on the west side of Lake Victoria to central and eastern Uganda and N.W. Kenya. It also occurs in northern Uganda at W. Madi on the Metu Hills and adjoining S. Sudan. In Tanzania, this race occurs in the Bukoba district to the eastern shores of Lake Tanganyika.

Charaxes tiridates marginatus Rothschild & Jordan

(Pl. 8, figs 57, 58, Map 5)

Charaxes tiridates marginatus Rothschild & Jordan, 1903 : 539.

MALE. Fore wing length 50 mm. *Upperside*. Fore wing disc deep blue-black, duller toward base, and black on outer border. Median line of blue spots well developed, as a rule, consisting of a streak and a quadrate mark at end of cell, two larger spots set out a little in 5-4, a trace of a spot in 2 approximating the postdiscal spot in the same area. Postdiscal series of blue spots complete, commencing at the subcosta and reaching 1a, the line is outwardly curved in 5-6, and inwardly curved 4-3. The marginal golden orange marks, extending from the hind angle to the apex are strong, well developed, divided by the ends of the black veins. Hind wing, ground colour blue-black on disc, shading to dull greyish brown on the inner fold which is slightly ochre at the edge; border of wing black. Postdiscal series of blue spots complete, commencing at the subcosta and extending to above the anal angle, is slightly incurved at 6 and outwardly curved at 4. Submarginal blue spots with white centres complete and well marked, double at anal angle. Margin with strongly developed golden orange lunules, very slightly divided by black; edge black with buffish fringe, bluntly dentate; tails 5 and 3 mm long. *Underside*. Ground colour slightly more greyish brown, the pattern not strong, but typical of *tiridates*. The marginal ochreous lunules of the fore wing and the border of hind wing pronounced.

Described from specimens from the Leman River, S.W. Ethiopia (*Hodson*), kindly loaned to me by the Hope Dept., Oxford. Unfortunately no female is available.

It will be noted, both from the description and the figures given, that *marginatus* comes very close to well marked specimens of the Uganda aggregate, and especially those from the northern districts of Uganda at Metu Hills, West Madi.

Carpenter records *tiridates* from the Imatong Mts in southern Sudan, but does not comment on them.

Range: The western and south-western areas of Ethiopia.

SYSTEMATIC LIST

***Charaxes tiridates* Cramer**

- Charaxes tiridates tiridates* Cramer, 1777. Type locality, Java (patria falsa).
tiridates Cramer; Doubleday, 1844. Corrected type locality,
 Ashanti, Gold Coast.
- Synonym. *Charaxes marica* Fabricius, 1793. Locality 'Africa'. ♀.
Charaxes marica Fabricius; Watkins, 1923. = *tiridates* Cramer ♀.
 Range: Sierra Leone, Guinea, Ivory Coast, Ghana and Fernando
 Po.
- Charaxes tiridates* intermediate cline.
- Charaxes tiridates* var. *tristis* Schultze, 1914. Type male, Bashe, Cameroun.
- Charaxes tiridates* var. *angusticaudatus* Rober, 1956. Type male, Cameroun.
- Charaxes tiridates* var. *purpurina* Rousseau-Decelle, 1938.
- Charaxes tiridates* ab. *subcaerulea* Storace, 1948. Type locality, Congo, Etoumbe.
 Range: Eastern Nigeria, Cameroun, Central African Republic,
 Moyen Congo, west Congo, mid Congo River, Kasai, Katanga,
 Lake Mweru, Sudan, Nuba Mts.
- Charaxes tiridates tiridatinus* Rober, 1936. Type male. Type locality, Uganda.
- Charaxes tiridates* ab. *conjuncta* Storace, 1948. Type locality, Sesse Islands,
 Uganda.
 Range: Western Uganda, from Bwamba and Semliki Valley, Toro,
 to Kayonza in Kigezi; also on the west side of Lake Victoria to
 central Uganda and N.W. Kenya; in Tanzania, this race occurs in
 the Bukoba district and the eastern shores of Lake Tanganyika.
 A smaller aggregate occurs in northern Uganda at West Madi on
 the Metu Hills and possibly on the adjoining hills in S. Sudan.
- Charaxes tiridates marginatus* Rothschild, 1903. Type locality, Scheko, Ethiopia.
 Range: Western and south-western regions of Ethiopia.

7. CHARAXES FUSCUS PLANTROU AND **C. NUMENES** HEWITSON AND
 ITS SUBSPECIES

***Charaxes fuscus* Plantrou**

(Pl. 8, fig. 59, Map 6)

Charaxes fuscus Plantrou, 1967 : 66.

Rough translation by T. G. Howarth of the original description.

MALE. Body entirely brownish black. Fore wing length 40 mm, triangular in shape, the costa forming a very marked curve as in *Charaxes protoctea* Feisthamel and the distal margin is slightly concave. Hind wing, margin rounded and slightly crenate between each nervure with a tail present at veins 2 and 3, that at 2, 2 mm and that at 4, 3 mm in length. *Upperside*. Fore wing, ground colour velvety brownish black with a violet reflection in an oblique light with very few markings. A line of 7 small rather ill-defined postdiscal spots, paler than the

background, present in the interspaces. Hind wing, ground colour as fore wing with the same small postdiscal spots but these only present in spaces 5, 6 and 7. The outer margin is emphasized by a narrow reddish marginal band divided by the veins. The two anal spots are present in the form of two small bluish points but above these is a line of practically invisible subterminal points. *Underside*. Fore wing, ground colour brown similar to that of *C. numenes* Hewitson but a little more yellow. Four heavy and unequal black spots in the cell followed by two others at the middle of the costa. The third black cell spot from the base is adjacent to two black antemedian spots situated basad in spaces 1 and 2. A large tear-shaped black spot present in the postdiscal area of spaces 1, 2 and 3, then a subterminal line of pale spots bordered on both sides by dark spots, particularly accentuated in spaces 1 and 2. The inner margin is mostly darkened. Hind wing, two well marked black lines, both merging with the ground colour below the cell. An almost straight white median line bordered inwardly by a black line and outwardly by a blackish irregular line, then a complete series of warmer brown marks which form a projection in spaces 4 and 5. A subterminal line of six bluish streaks in line with the spots of the anal angle, finally a reddish outer margin.

The holotype, a single male, was captured at Bangui, Central African Republic, in September 1966 by Monsieur R. P. Godart, and is in coll. Plantrou.

The author places this newly described taxon immediately before *C. numenes* Hewitson.

Charaxes numenes (Hewitson)

(Pl. 8, figs 60-63, Map 6)

Nymphalis numenes Hewitson, 1865; t. 46. Type locality, Sierra Leone, types ♂ and ♀.

Charaxes numenes Hewitson; Butler, 1865 : 630, n. 29.

Nominate examples of *Ch. numenes* are small compared with their counterparts from Uganda and eastern Congo; they are also less blue-spotted, and differ in other ways.

MALE. Fore wing length 40-45 mm. *Upperside*. Fore wing, ground colour deep blue-black; the median or discal blue spots small, sometimes almost obsolete, a trace of a streak beyond cell with a distinct spot below, followed by two spots, upper one distinct, the other minute. The postdiscal row represented by two white spots, the upper one strong, the lower small or may be absent, these are followed by minute blue spots to 1b, or these spots may be lacking. Margin of wing with distinct elongate ochreous marks, small and double in 1b, larger in 2-3 then decreasing in size up to apex. Hind wing, ground colour blue-black shading to black on inner fold where the admargin is paler, but edge black. Blue postdiscal spots distinct from subcosta to just above the anal angle, the line of spots with a double curve; submarginal spots distinct, mostly white with slight blue surround, small and double in anal angle; margin with small divided triangular ochreous marks, more olive at anal angle; edge black with very narrow ochre fringe, very slightly dentate; tails very short, 3 and 1 mm. *Underside*. Fore wing ground colour greyish olive with ochre flush, the median area with a darker olive bar and a triangular patch beyond, base to costa; bold black spots and lines outlined in white in the cell, more rounded black marks sub-basal in 1b-2; the two dark areas of the wing divided by an irregular black line strongly outlined distally in white; subapex with two whitish spots; border with indistinct ocelli with dark centres which gradually darken, the spot in 2 and double one in 1b with black centres; basal area of 1a greyish brown. Edge of wing with ill-defined ochre marks with black dots at vein ends. Hind wing, ground colour slightly darker than fore, basal half with a darker brown area divided at costal region by a pale line with two black spots proximally and a narrow black line distally which is edged with white proximally, the outer side of the dark patch accentuated sharply by an angled white line, narrowly black proximally.



MAP 6.

The postdiscal line with a series of ochre-brown lunules narrowly edged white on proximal side but shaded black distally. The submargin with a series of distinct white spots shaded lilac and black distally from 5 to anal angle where the spots are double. Border with broken triangular marks, ochre basally shading to white, olive at the anal angle; edge narrowly black with light brownish fringe.

FEMALE. Fore wing length 43-47 mm. *Upperside.* Fore wing, ground colour brownish olive in basal half, the distal half black, in between a bold white bar edged black proximally, strong at costa but decreasing to the hind angle; the white bar extending from the costa to just short of the hind angle, fairly even in width to 2, then with smaller spots which may be ochretinged. Sub-apex of wing with two large white spots, and occasionally with obscure spots in one to three spaces below. Margin with very slight indication of pale internervular spots. Hind wing, disc brownish olive usually stopping short at mid costa, where there is a pale subcostal rounded spot; beyond, a series of pale spots at the junction of the olive patch and the black border in the postdiscal line; the black border, widest at upper angle, tapers to above the anal angle, it carries a series of whitish lilac spots in the submarginal line. Marginal border very narrow, consisting of divided triangular ochre marks; tails stumpy, 5-2 mm. *Underside.* Pattern bold, as in the male. Fore wing basal half olive-drab, slightly more golden in the cell, which is crossed by bold lines and spots outlined in white; the sub-basal black marks in 1b and 2 bold, as are the black marks on proximal side of the white bar. On the distal side of the bar there is a dark triangular brown patch which extends up to the two subapical white spots; in the submargin there is a series of greyish ocelli with dark centres, which are black in 2 and double in 1b at tornus. Border of wing more brownish, edge narrowly black with minute white fringe in interspaces. Hind wing very much as in the male; the postdiscal white and olive lunules, edged black, are stronger; the submarginal white and grey lunules well marked; margin with broken whitish triangles; edge greyish ochre.

Range: Sierra Leone, Liberia, Ivory Coast and Ghana to western Nigeria.

Charaxes numenes intermediate cline

(Pl. 8, figs 63, 64, Map 6)

Charaxes numenes ♂ f. *laticatena* Le Cerf, 1932 : 405, Belgian Congo, is a minor variation which occurs occasionally.

MALE. Fore wing length 45 mm. *Upperside.* Fore wing, ground colour as in the more western, nominate race. The blue spots in the median row rather obscured; the sub-apical spots smaller; the subcostal one distinct, but the remaining spots variable in number, hardly visible or absent. Marginal ochreous spots as in nominate or smaller. Hind wing ground colour as in nominate race; postdiscal blue spots smaller; admarginal dots more bluish; marginal line of small broken ochre triangles not reaching the upper angle; edge narrowly ochre-white, very bluntly dentate, tails stumpy 3 and 1 mm. *Underside.* As in nominate race.

FEMALE. Fore wing length 51 mm. *Upperside.* General pattern and colour as in nominate subspecies; the white bar of fore wing less solid as the marks are more divided; postdiscal spots as usual. Hind wing, colour and pattern as in more western examples. *Underside.* Ground colour as in nominate, but dark mid area in fore wing darker. In the specimen figured, the sub-basal black spots in 1b-3 are conjoined to black marks on proximal edge of the fore wing white bar.

Range: Cameroun, Central African Republic, Congo (Brazzaville), ? Kasai.

Charaxes numenes aequatorialis ssp. n.

(Pl. 9, figs 65, 66)

Charaxes numenes ssp. et f. *obsolescens* Stoneham, 1931, *Bull. Stoneham Museum*, 7 : 1, Malawa Forest, Kakamega area, Kenya is of no importance. [Type examined].

Although there are no striking differences in the western and eastern aggregates the overall picture of the two, in series, above and below, is very noticeable.

MALE. Fore wing length 48–50 mm. *Upperside.* Fore wing, ground colour blue-black, slightly duller brownish at base. Median row of blue spots generally more distinct, often five in number, the subcostal one often whitish; the postdiscal blue spots more distinct; the subapical ones white and bluish white; the remaining ones more distinct than in nominate race; the marginal golden ochreous spots large and stronger. Hind wing basal area black more smoky on inner fold; border of wing blue-black; the postdiscal row of blue spots larger and brighter blue; the submarginal white spots, blue distally, strongly marked; the marginal golden ochreous triangles larger and less divided; edge golden, bluntly dentate, tails very stumpy, only 2 and 1 mm long. *Underside.* General pattern as in the nominate race, but often with the dark mid zone of the fore wing stronger, so also that of the disc of the hind wing; the black marks in 1b–2 often connected by black bridges to the black marks in discal line. The black tornal spots strong, with golden ochreous surround; margin with stronger golden lunules, especially at hind angle.

FEMALE. Fore wing length 50–55 mm, larger than nominate females. *Upperside.* Fore wing, ground colour brownish olive with distinct rufous tinge shading to a narrow black line on the proximal side of the white bar; the costal end of the bar more irregular than in nominate race, especially at 4 where the mark may be small, the whole bar more broken in outline, less solid, the marks often strongly yellowish tinged. Distal half of wing black with two well marked white spots in sub-apex, very rarely with trace of marks in 3 below. Margin with two ochreous spots in 1b, and the slightest indication of marks in spaces above. Hind wing, ground colour as fore wing; the black border widest at upper angle, may extend half way along the costa to the discal pale spot, tapering at the posterior end to above the anal angle; on its proximal side is a row of paler postdiscal marks, most strongly developed at the subcostal end within the black ground of the border. Submarginal row of white, blue-pointed spots, double at anal angle, distinct; admarginal row of golden triangles, usually larger than in nominate race; edge ochreous with whitish elongate mark at upper angle. *Underside.* Fore wing, ground colour at the base of the wing as in nominate race but the dark brown area in the upper part of the disc wider and more angled distally, as a result, the white bar is narrowed; the black marks on the proximal side of the bar and those of 1b and 2 either completely separated or slightly conjoined or joined, thus a variable character. Hind wing, the white edge to the discal brown band is stronger as a rule; the submarginal whitish lunules stronger; the amount of olive-ochre on the margin variable.

Holotype male. UGANDA: Kayonza, Kigezi, 6.ix.1952 (*van Someren*).

Allotype female. UGANDA: Kayonza Forest, Kigezi, v–vi.1957 (*van Someren*).

Range: North-west Kenya and Uganda, extending into the eastern Congo along the Semliki Valley to Kivu; also found in the country south of Lake Victoria, extending south to east of Lake Tanganyika at Kigoma.

Types in B.M.N.H.

Charaxes numenes, local ecological form

Representatives of *numenes* in the northern area of Uganda and northern Kenya and across the border into southern Sudan present an aggregate in which the males

are small, the wing length being 38–45 mm. The upperside colour is similar to the Uganda aggregate, but the ground colour is more brownish drab and the pattern not so bold. These may represent a cline toward the next subspecies.

***Charaxes numenes neumanni* Rothschild**

(Pl. 9, figs 67, 68, Map 6)

Charaxes numenes neumanni Rothschild, 1902 : 597.

MALE. Fore wing length 45 mm. The characters given for the race are: marginal spots of both wings larger than in West African *numenes*; admarginal spots of hind wings also enlarged, confluent, yellow; white submarginal dots smaller than in *numenes*; discal spots a little more proximal. Underside, ground colour is more brownish, less olive drab, the darker bands on both wings dark brown, the white outlining very narrow.

Described from a single male, this subspecies has now been recorded from Ethiopia by Ungemache at Youbdo; Hodson obtained it from the Ganji River and Haeto; Malcome Berkeley took it at Adola in south Ethiopia.

SYSTEMATIC LIST

***Charaxes fuscus* Plantrou**

Charaxes fuscus Plantrou, 1967. Type locality: Bangui, Central African Republic.
Range: Only known from the locality of the unique type.

***C. numenes* Hewitson**

Charaxes numenes (Hewitson), 1865. Types male and female. Type locality: Sierra Leone.

Range: Occidental Africa: Sierra Leone, Liberia, Ivory Coast, Ghana, western Nigeria, Fernando Po.

Charaxes numenes intermediate cline.

Synonym: var. *laticatena* Le Cerf, 1932. Congo.

Range: Cameroun, Central African Republic, Gabon, Congo (Brazzaville), N. Angola, Kasai, Katanga.

Charaxes numenes aequatorialis ssp. n.

Synonym: var. *obsolescens* Stoneham, 1931. Malawa, Kenya.

Range: The eastern Congo from Semliki Valley to N.W. Kenya, including western Uganda to TransNzoia in Kenya; the area around Lake Victoria to eastern shores of Lake Tanganyika, in the north.

Charaxes numenes aequatorialis ssp. Small aggregate.

Range: Mt. Moroto, Turkana; Mt. Marsabit, Kenya.

Charaxes numenes neumanni Rothschild, 1902. Type male. Type locality: Wori-Gamitscha; Kaffa, Ethiopia.

Range: West and south Ethiopia.

8. *CHARAXES BIPUNCTATUS* ROTHSCHILD AND ITS SUBSPECIES*Charaxes bipunctatus* Rothschild

(Pl. 9, figs 69-72, Map 7)

Charaxes bipunctatus bipunctatus Rothschild, 1894 : 536.*Charaxes bipunctatus johnsoni* Rousseau-Decelle, 1956.

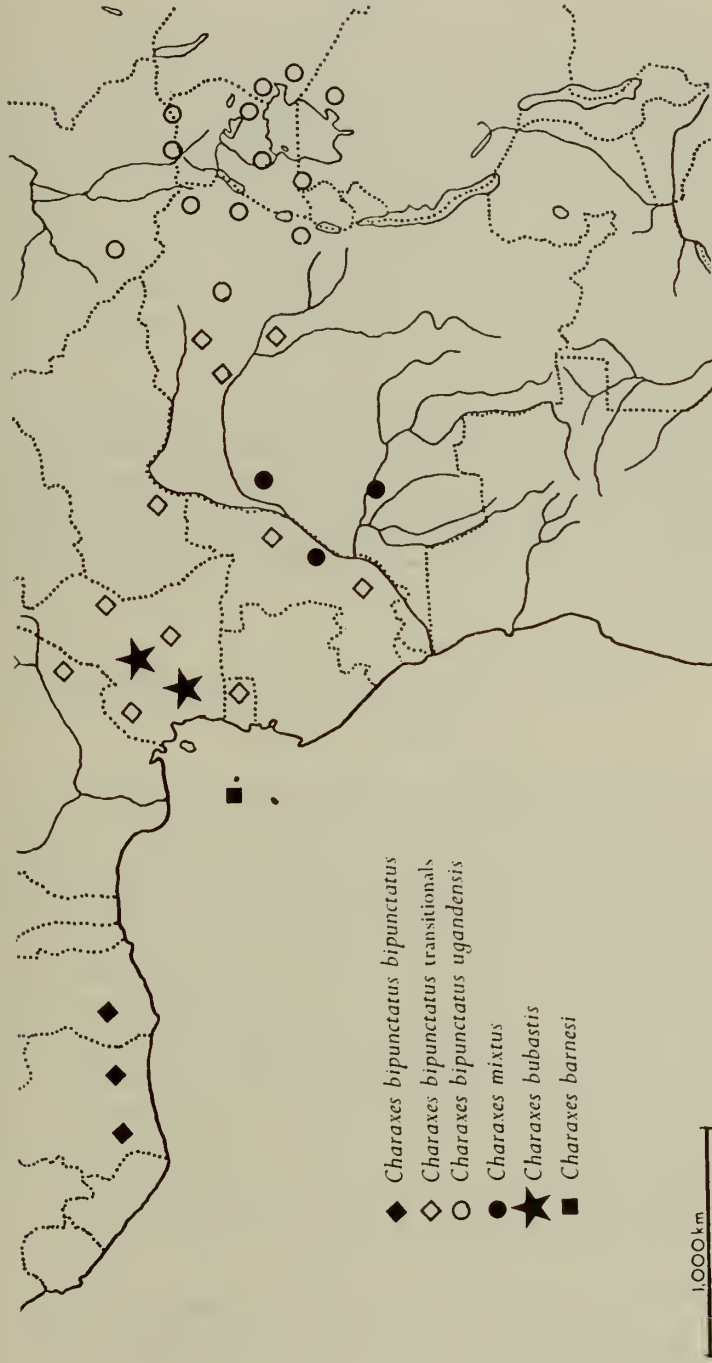
The type locality given by Rothschild, 1894, was 'West Africa, ? Gold Coast'; this was subsequently restricted by Butler (1896) to Accra, Gold Coast. In 1956 Rousseau-Decelle described the race *johnsoni*, also from the Gold Coast, apparently thinking that specimens from further east, possibly Uganda, were nominotypical. In actual fact, the species *bipunctatus* is separable into two geographical races, with an intermediate cline between them.

Nominate specimens from the Ivory Coast and Ghana are smaller than Uganda examples, and differ in other ways.

MALE. Fore wing length 43-44 mm. *Upperside.* Fore wing, ground colour blue-black. Blue spots in median or discal line variable, usually two streaks beyond the end of the cell, a slightly larger spot sub-basal in 3, a smaller spot in 2, not always visible. Subcostal spot in postdiscal line white, occasionally a blue spot below, and traces of spots in 2 and 3. Marginal ochreous lunules small, well separated by black ground. Hind wing ground colour blue-black, duller on inner fold, edge greyish, with slightly paler ochre tinge above anal angle. A subcostal blue spot at about mid point in the discal line; postdiscal spots, two upper ones large, and may be followed by a trace of smaller spots in spaces below. Submarginal blue spots with white central dot complete, and double in the anal angle; marginal golden ochreous lunules narrow; edge black, slightly dentate, tails very stumpy. *Underside.* Fore wing, ground colour olivaceous drab at base, more olive greyish on the borders of wing. Cell with three wavy black lines, the central mark often divided, all white edged; the sub-bases of 1b and 2 with larger black bars; the discal bar ochreous grey with a series of curved black lines on the proximal side; the submargin of the wing with rather obscure ocelli with darker centres more pronounced in 1b and 2 where the centres are black, the marks outlined distally with bluish grey, the margin with rather obscure ochreous lunules most pronounced at hind margin. Hind wing, ground colour as fore, the base with wavy narrow black lines outlined white proximally, those of the discal line whitish distally, followed by obscure, slightly ochreous lunules with greyish and black proximally; submargin with small white dots, double at anal angle, which is distally shaded in black. Marginal border narrowly ochreous, edge black, more olivaceous at anal angle.

FEMALE. Fore wing length 45 mm. *Upperside.* Fore wing, base olivaceous brownish, shading to black in upper part of cell and proximal side of white bar, which crosses the wing from the costa to just short of the hind angle, where the spots are smaller and ochre-tinged. Distal portion of wing black with two white spots in subapex, occasionally a trace of a spot in 4 below. Margin of wing with two ochreous spots at hind angle. Hind wing, ground colour lighter brownish olive; a whitish spot is present on subcosta at upper discal line, paler olive-ochre spots in upper part of postdiscal line becoming more obscure in lower half bordering on the black border, which is widest at upper angle and tapers toward the anal angle; submargin with a series of stellate white spots; margin with pale ochreous lunules; edge black, slightly dentate, tails short and stumpy. *Underside.* Fore wing, ground colour and pattern as in the male but with the white bar, similar to above, but proximally outlined in black. Ternal marks black, but the rest of the ocelli above obscure. The two white sub-apical spots distinct. Hind wing more or less as in the male, but anal ocellus more distinct.

Range: Nominate *bipunctatus* appears to be limited to the Ivory Coast and Ghana. I cannot trace any records from western Nigeria.



MAP 7.

Charaxes bipunctatus cline

(Map 7)

It is unfortunate that Rothschild gives such a wide distribution for the species in his monograph of the *Charaxes* (1900 : 390), and still puts the type-locality as 'West Africa, ? Gold Coast', though accepting the specimens from Accra and Ashanti as nominotypical. Specimens from Cameroun and the Central African Republic, Gabon and possibly Moyen Congo appear to be intermediate in character between the nominate *bipunctatus* and those from Uganda and N.W. Kenya. It will be noted that the above description given by Rothschild is somewhat different from that of the original description (1894 : 536-537) based on the type. One can only assume that the latter was based on the augmented series then at Tring, which I suggest was a composite one.

MALE. Intermediate in size between the nominate race and that found in Uganda. Fore wing length 45 mm. *Upperside.* Fore wing, the blue spots in the median line are very obscure, sometimes almost absent; the subapical spot small; the marginal golden lunules stronger than in nominate. Hind wing, blue spots at upper angle strong or obscure; the submarginal small blue spots very faint and most marked at the upper angle; the marginal golden lunules strong. The characters of this cline thus embody those of the nominate and the Uganda race.

Range: Cameroun, Central African Republic, Gabon, Moyen Congo and perhaps the Mid-Congo River region.

Charaxes bipunctatus ugandensis ssp. n.

(Pl. 10, figs 73-75, Map 7)

MALE. Fore wing length 49-50 mm. *Upperside.* Fore wing, ground colour more purplish brown-black, with slight greenish sheen at base of wing. Discal or median line of blue spots usually small and limited to two, the uppermost beyond the cell usually absent, spots deeper blue, the spot in 3 is rarely present. Subapical spots, upper one large, distinct and white, the second spot small and obscured. Marginal golden lunules bold. Hind wing, ground colour as fore wing shading to brownish on the inner fold; subcostal blue spot in the discal line usually absent, but the upper spots in the discal line, one above the other, darker blue; very rarely a third spot. Submarginal spots blue or blue with white centres, strong in upper angle but tailing off towards the hind angle where the spots may be small and whitish; marginal golden lunules strong and bold, very narrowly separated by black; edge black with ochreous fringe enhancing width of golden line; margin bluntly dentate, tails very stumpy. *Underside.* Ground colour browner; pattern similar but bolder except on the distal border where it is more obscured.

FEMALE. Fore wing length 50-54 mm, general colour and pattern similar to nominate female, but differing as follows: *Upperside.* Fore wing, the basal ground colour brownish olive, the amount of black shading toward the cell and proximal side of white bar less than in the nominate race; bar similarly formed but third upper spot at base of 4 usually smaller and the marks more separated, those towards the hind angle more tinged with ochreous; the golden ochreous marginal spots larger and more distinct. Distal half of wing black, the two sub-apical spots larger, and there may be traces of spots, more ochreous in colour, in 4 and 5. Hind wing, ground colour as fore wing; a paler subcostal spot in discal line, then two light spots in upper postdiscal line with less conspicuous marks in spaces below; border of wing blackish, widest at upper angle where it may extend and encroach on costa, at lower end it tapers towards the anal angle; border with small whitish dots more in evidence at upper angle but less clear than in western

examples; border with wider golden ochreous marginal band, spot at upper angle more conspicuous and rounded, the marks forming the band only narrowly separated by black veins; edge black with narrow ochreous fringe. Edge bluntly dentate, tails very stumpy. *Underside.* Fore wing, ground colour very like nominate race, slightly more brownish tinged, but the dark band through the disc stronger; wavy black bars in cell similar, but black marks sub-basal in 1b-2 and proximal to the white bar larger; pattern on distal portion of the wing very similar. Hind wing ground colour as in nominate race, so also the general pattern, but less strong; black edge to postdiscal lunules less marked; submarginal whitish spots less in evidence, but these differences are slight.

Holotype male. UGANDA: Toro For. (J), x.1949 (*van Someren*).

Allotype female. UGANDA: Toro, Kibali Forest, v-vi.1956 (*van Someren*).

Within this general area, that is, in the Madi area of northern Uganda and neighbouring southern Sudan, we find a smaller aggregate, ♂ 45 mm, ♀ 47 mm. The males have a stronger greenish sheen at the base of the fore wing. The discal blue spots at the end of the cell more distinct; the subapical spot strong; golden borders of both wings strong. The females have slightly darker brown colour to base of fore wing and hind wing. The fore wing bar strongly tinged with ochreous. On the underside, the females exhibit a stronger pattern, the black marks sub-basal in 2 and 3 conjoined forming an almost solid black patch. This is probably merely an aberration.

Range: Uganda and North-west Kenya, extending westward into the Semliki Valley and eastern Congo. The smaller aggregate is found in West Madi on the Metu Hills; and adjoining Southern Sudan.

Types in B.M.N.H.

SYSTEMATIC LIST

Charaxes bipunctatus Rothschild

Charaxes bipunctatus bipunctatus Rothschild, 1894. Type locality: Gold Coast.

Synonym. *Charaxes bipunctatus johnsoni* Rousseau-Decelle, 1956.

Type locality: Gold Coast.

Range: Limited to occidental Africa: Ivory Coast and Ghana, ? western Nigeria.

Charaxes bipunctatus intermediate cline to *ugandensis*.

Range: Cameroun, Central African Republic, Gabon, Congo (Brazzaville) and perhaps the mid Congo River region.

Charaxes bipunctatus ugandensis ssp. n.

Range: Uganda and north-west Kenya, extending westward into Semliki Valley and eastern Congo. A smaller aggregate is found in West Madi on the Metu Hills and adjoining southern Sudan.

9. THE PROBLEM OF *CHARAXES MIXTUS* ROTHSCHILD, *CHARAXES BUBASTIS* SCHULTZE, AND RELATED SPECIES

The males of both these species resemble somewhat the male of the *Charaxes tiridates* association, i.e. *tiridates*, *bipunctatus*, *numenes*, etc., whose females also

bear a resemblance to each other, having a brownish olive colour to the bases of fore and hind wing and having a conspicuous oblique white bar in the fore wings. The females of the *mixtus* group, on the other hand, are somewhat male-like, but duller and more brownish.

It is of interest to note that at one time male *mixtus* was considered to be a variation of *tiridates*, and that *bubastis* was a hybrid between *mixtus* and *smaragdalis*!

The male type of *Charaxes mixtus* came from Lokolele in the mid-Congo region; the type of male *bubastis* is from Bipindi in the Cameroun and there is a second example from the Njong River, also in Cameroun.

In 1898 Rothschild described and figured what he took to be the female of *Ch. mixtus*. This specimen came from the Cameroun. It is totally different from any of the females of the *tiridates* association, and can be roughly described as having the appearance of a larger, duller, more brownish black form of the male. Later on, another female was taken at Kafakumba, Katanga, S. Congo. The association of these females with male *mixtus* has been generally accepted, but it has not been verified by breeding, nor by taking a pair 'in cop', so far as I can ascertain.

Male *mixtus* is now well represented by specimens taken in the area from the Central African Republic, W. Congo, Kasai and Katanga. The female is still very rare, but two specimens have been kindly loaned to me, the type from the Berlin Museum, the other from the Congo Museum, Tervuren. They agree in all respects.

Charaxes mixtus Rothschild

(Pl. 10, figs 76-79, Map 7)

Charaxes mixtus Rothschild, 1894 : 554, t. 12, fig. 8.

Charaxes mixtus Rothschild, 1898 : VI. Female, type locality: Cameroun.

MALE. Fore wing length 48-50 mm. *Upperside*. Fore wing, ground colour blue-black, duller black at the base. Discal or median row of blue spots rather variable in number, sometimes three, sometimes four to five in a curve; the upper mark may be a mere blue streak in the subcosta, followed by a larger spot at the end of the cell and more conspicuous spots in 3-2 and the trace of a spot in the upper part of 1b. The postdiscal row of spots consists of two well-marked white spots in subapex, followed by a trace of spots, blue in colour, in spaces below, the marks in 1b and especially that in 1a, bolder. The margin of the wing with whitish marks double in 1b, strong in 2, then more diffuse in spaces up to the apex. Hind wing, ground colour blue-black, duller on the inner fold which is smoky grey-black. On the postdiscal line there are conspicuous blue spots in a row from subcosta to above the anal angle, the spot in 6 set in so that the line is here kinked or angled proximad. The submargin has a row of bluish white spots or stronger blue with white centres. Admargin with a series of bluish white lunules, sometimes white at upper angle; edge with whitish internervular fringe; margin slightly dentate. Tails thin and pointed, 5-3 mm long. *Underside*. Both wings drab olive-grey, slightly darker in disc of fore wing. Fore wing, cell and sub-bases 1b-2 crossed by black lines slightly edged with white; discal line of paler angles outlined proximally in black not very strong; postdiscal series of obscure ocelli become strongly marked at tornus and space above; subapical spots whitish; margin with olive-ochreous lunules. Hind wing with thin black marks in sub-base; disc with paler spots finely edged with black proximally, followed by a postdiscal series, kinked at 5, extending from 6 to anal angle and crossing the inner fold; submarginal series of whitish spots, blackish distally, lie in contact with the admarginal series of olive-ochre lunules; margin brownish black with paler fringe.

FEMALE. Fore wing length 54-56 mm, thus larger than the male. *Upperside*. Ground colour of both wings rather browner especially at the bases. Fore wing, median blue spots larger but duller, that at end of cell obscured. Postdiscal spots obscured, except the two at the hind angle which are dull bluish while the two subapical are clear and white, the upper one somewhat linear. Marginal spots rather obscured, slightly ochreous in colour, double in 1b. Hind wing, pattern of blue spots as in the male, but postdiscal spots almost obscured except for that in 6 but even this is dull. Submarginal bluish spots complete but dull; marginal lunules well developed but dull olive-ochreous. Tails, rather thin and pointed, upper 7 mm, lower 4 mm. *Underside*. Fore wing, ground colour brownish olive, paler at the base and with a darker zone in the discal area; black wavy lines cross the cell, that at end of cell adjacent to the series of black lunules distally shaded with greyish, in the median line; the postdiscal series of strongly ochreous spots in 1b and 2 become increasingly obscure but more whitish in the sub-apex; the tornal black marks, double in 1b are strong. Margin with ochreous marks decreasing in size from 1b to apex. Hind wing, ground colour as in fore wing; basal black lines thin but distinct corresponding to those in the male. The postdiscal series of paler spots in the form of lunules, complete but weak, that at anal angle stronger. Submarginal spots complete, dull, sometimes with black dot distally, double at anal angle on olive ground. Admargin with ochreous lunules, edge darker brownish.

Variation: The amount of variation in the male is not, as a rule, very great as can be seen from the figures on Plate 10, with the exception of fig. 77, which depicts a specimen with large and extended blue spots in the postdiscal zone of the hind wing. On the other hand the blue spots on the upperside of the type (Pl. 10, fig. 76) especially in the hind wing, are obscured.

There is nothing on record regarding food plant or early stages.

Range: Katanga, S. Congo; W. Congo; Central African Republic; Cameroun.

Charaxes bubastis Schultze

(Pl. 10, fig. 80, Map 7)

Charaxes bubastis Schultze, 1917 : 110, t. 13.

As indicated in the introductory note, there has been some speculation as to the correct status of this *Charaxes*. The suggestion that it is a hybrid can be discounted for such are extremely rare in nature. Moreover, the insect is known from at least four specimens taken in different localities, at different times.

I have before me two specimens, one compared with the type and another perfect example; they agree in all respects.

MALE. Fore wing length 51-52 mm. *Upperside*. Fore wing, ground colour blue-black with a slight purplish tinge, more brownish at the base. Median or discal row of blue spots larger than in *mixtus*, more purplish blue, consisting of a streak beyond the end of the cell, followed by a smaller more rounded spot sub-base in 3, followed by a larger spot directly below in 2, the double spots in 1b (vestigial in one specimen). In the postdiscal row, the subapical spots are bold and white, while the lower spots are obscured, though more apparent in 1b and 1a. Margin with well marked ochreous spots well separated by dark ground, double in 1b, and extending up to the apex; these spots more defined than in *mixtus*. Hind wing, ground colour purplish blue-black shading to more greyish on the inner fold. Disc of wing in one specimen with a slight greenish bloom; there is also a subcostal blue spot. Postdiscal row of spots may be complete or lacking the upper spot in subcosta, the remainder blue with slight purplish tinge,

the upper three spots less angled than in *mixtus* and nearer the submarginal row of whitish blue spots, which in turn are less approximated to the marginal row of blue lunules, which are whitish at the upper angle; edge slightly serrate; tails more robust and shorter, 4-3 mm long. *Underside*. Fore wing, ground colour olive-drab, more olive-ochreous at basal angle, discal area rather darker. Cell crossed by the usual black lines, narrowly outlined in white; a median series of light lunules accentuated in black proximally present; stronger black lines sub-basal in 1b and 2. Submarginal ocelli with black centres present in 1b and 2, the rest tending to fade out; subapical white spots strong; margin with olive-ochre spots not as defined as on upper side. Hind wing, ground colour as fore wing; very thin black in basal area; discal and postdiscal paler spots distinct, those in the lower portion of the line with dark shading distally; submarginal row of spots as above but not so defined; marginal lunules greyish buff; edge brown not sharply serrate but more dentate. Anal angle golden olive with double black dots.

The FEMALE is not known.

Thus there is some general resemblance to *Charaxes mixtus*; but since the differences between the two are obvious, I consider *bubastis* a distinct species.

Range: Known only from Cameroun, specimens having been taken at Bipindi (type-locality) and at the Njong River.

Charaxes albimaculatus sp. n.

(Pl. II, figs 81, 82)

Amongst the material of '*mixtus*' kindly loaned to me by the British Museum (Nat. Hist.) is a male specimen which had been tentatively placed as a variation of *mixtus* Rothschild. It, however, exhibits some outstanding characters which suggest that it belongs to a distinct undescribed species. This specimen was taken at Stanleyville in northern Congo.

Until recently no female could be associated with this unique male but, as a result of exchange of photographs and specimens with Monsieur Plantrou of Paris, it now appears that he has in his collection a female which belongs to this species. The specimen was obtained at the recent sale of the Le Moulton collection in Paris. This insect has now been forwarded to me, and it is without doubt a female of the male I am now describing. It possesses all the essential characters of the male, including the conspicuous submarginal white spots in the hind wing above and the almost uniform colour of the hind wing below, thus differing considerably from the female of *mixtus*, to which it had been placed.

MALE. It is considerably smaller in size than *mixtus* Rothschild, fore wing length 42 mm; the hind wings more pyriform due to the more pointed anal angle; the antennae are shorter. *Upperside*. Forewing, ground colour is a deep blue-black, slightly duller blackish at the base. The blue spots in the median and postdiscal line are small and punctiform, the two upper spots in the median line larger than the rest; the ochreous spots on the margin are smaller but more distinct. The hind wing is blue-black, shading to brownish on the inner fold, immaculate in the disc and postdiscal area, but the submargin carries a row of conspicuous white spots, double at anal angle; this character is outstanding. There is no marginal border, the wing being black to the edge which is bluntly serrate. *Underside*. Fore wing, strongly patterned, the ground colour a warm olive brownish, paler, more ochreous at the base where the black lines and spots are bold, that crossing the end of the cell continuous with the black marks in sub-bases of 1b and 2. The mid zone of the wing is obliquely crossed by black lines distally shaded in ochreous

to whitish, terminating in a large black mark in *rb*, which is contiguous with the darker zone separating the oblique bar from the rather obscure ocelli of the postdiscal line, the subcostal subapical mark whitish; the ocelli in *rb* and 2 with black centres; margin with ill-defined ochreous lunules, double at tornus. Hind wing, ground colour almost uniform brownish olive with one faint subcostal spot in median line; black line in sub-base very thin, median area and postdiscal zone without marks, but submargin with white spots as upperside; margin slightly darker especially in mid area, but there is no marginal border. Anal angle with lilac and double black dots.

FEMALE. Fore wing length 54 mm. *Upperside*. Fore wing, ground colour purplish brownish black at base of wing but darker in distal half; purplish blue spots in the discal line from end of cell to *rb* where the marks are faint; two white spots in the subapex, the upper one rectangular, the lower smaller and rounded; margin with faintly indicated ochre-greyish spots; edge faintly whitish. Hind wing, basal area as fore wing, shading to greyish brown on the inner fold; distal portion of wing darker brownish black with indication of three paler purplish brown spots in postdiscal line in 6-7, these spots placed more toward the series of conspicuous white submarginal, somewhat angled, spots placed as in the male. There are no marginal lunules; extreme edge faintly whitish. Tails short, 4 and 3 mm. *Underside*. Similar in all respects to that of the male.

Holotype male. N. CONGO: Stanleyville, iii.1924 (Ertl collection, ex Joicey Bequest, B.M.(N.H.).

Allotype female. S. CONGO: Katanga, Kafakumba (Overlaet Collection, ex Le Moul't) in Coll. Plantrou, Paris.

Charaxes barnesi Joicey & Talbot

(Pl. II, figs 83, 84)

Charaxes barnesi Joicey & Talbot, 1927 : 14.

No actual specimens are available to me for description but, through the kindness of the British Museum (Nat. Hist.), photographs of the types are here reproduced. For the brief description I have had to draw on the original one given in the publication cited above.

MALE. Fore wing length 48 mm. *Upperside*. Ground colour of both wings deep blue, more intense over the proximal half of both wings. Fore wing, the median row of blue spots consists of three streaks in subcostal area in 4-6, followed by more quadrate marks set out a little in 3-2, followed by a smaller spot in upper part of *rb* approximating toward the postdiscal spot in the same area; post discal spots complete, commencing with two large white spots in subapex, followed by blue marks of increasing size and extending to the hind margin where the mark is a streak. Margin with white linear marks, double in *rb*, decreasing in size up to apex. Hind wing, disc immaculate, but postdiscal zone with a series of large blue spots from subcosta to above anal angle, the spot in 6 set in so that the line is here kinked, the spots in 3 set in a little so that the line has a double curve; submargin with a row of blue-white centre spots; marginal border with whitish lunules; edge black, very slightly dentate, tails comparatively short and thick, upper 5 mm, lower 2 mm. *Underside*. Fore wing, ground colour olive-drab; black bars narrowly outlined in white in the cell; thicker black bars sub-basal in *rb*-2, these marks set in more basad than usual. Disc of wing crossed by a paler zone in the median line, corresponding to the blue of upperside, but extending to and tapering in *rb*. Two white subapical spots prominent; postdiscal area with paler lunules forming the inner side of the row of obscure ocelli with darker centres, more distinct in *rb* where the centre is black. Hind

wing, ground colour as fore wing; base with small light marks outlined in black; discal zone with thin black line shaded whitish distally, crossing the inner fold; postdiscal row of light yellowish marks corresponding to blue marks above; submarginal series of whitish spots double at anal angle, clear; marginal border pale ochre.

FEMALE. *Upperside.* Joicey and Talbot compare this with *Ch. cithaeron* as having the same purplish brown ground colour. The white band of the fore wing commencing at the subcosta as a streak, widens to 2, then abruptly narrows in 1b, the double spots being set towards the end of the mark above. The margin has two pale spots in 1b. Hind wing with the discal border blackish, defined on the inner border by a series of purplish blue spots, large and distinct at subcosta and decreasing in size and distinctness to above anal angle. There is a large well defined bluish spot in the subcosta at upper median line. A complete row of blue white-centred present in the submargin; the margin with distinct lunules, white at upper angle, then shaded with purplish toward anal angle. Tails thick, relatively short, upper 6 mm, lower 3 mm. *Underside.* Fore wing, ground colour as in the male; the white bar formed exactly as above; the two subapical white spots strongly represented; the obscure submarginal ocelli as in the male; margin without any pale marks. Hind wing, ground colour as in the male, the pale mark at subcosta in the discal line followed by a zigzag series of less strong marks to above anal angle where the spot on inner edge of fold is whitish; postdiscal series of paler spots arranged in same way as marks above; submarginal row of whitish spots, double at anal angle fairly distinct; marginal lunules whitish at upper angle are shaded with purplish in region of tails and anal angle.

Range: Known only from the island of Principe in Gulf of Guinea.

SYSTEMATIC LIST

Charaxes mixtus Rothschild

Charaxes mixtus Rothschild, 1894. Type locality: Lokolele, mid Congo River (♂), Cameroun (♀).

Range: S. Congo, Katanga, W. Congo, Central African Republic (Moyen Congo), Cameroun.

Charaxes bubastis Schultze

Charaxes bubastis Schultze, 1917. Type locality: Bipindi, Cameroun.

Range: Only recorded from Cameroun at Bipindi and Nijong River.

Charaxes albimaculatus sp. n.

Charaxes albimaculatus sp. n. Type locality: N. Congo, Stanleyville (♂), S. Congo, Kafakumba, Katanga.

Range: N. and S. Congo.

Charaxes barnesi Joicey & Talbot

Charaxes barnesi Joicey & Talbot, 1927. Type locality: Principe I.

Range: Confined to Principe Island in the Gulf of Guinea.

10. FURTHER NOTES ON *CHARAXES MANICA* TRIMEN AND
C. MCCLEERY I SP. N.*Charaxes manica* Trimen

After my previous notes on this species (1966 : 86) had gone to press, Monsieur Jacques Plantrou of Paris received, during the latter part of 1966, some interesting specimens of a 'Black' *Charaxes* of the '*Etheocles*' Complex taken in the Brazzaville area of the Congo by Monsieur Auberger. Monsieur Plantrou rightly placed them to the species *manica*, but noted that they differed considerably from the nominate race. The specimens were in due course submitted to me for an opinion. There is no doubt that they represent a good subspecies from an area in which *manica* has not hitherto been recorded.

Charaxes manica subrubidus ssp. n.

(Pls II, 12, figs 85-92)

MALE. Fore wing length 36 mm. *Upperside*. Fore wing, shape and ground colour similar to the nominate race. The subapical spots slightly larger and whiter, the blue spots beyond the end of the cell more obscured, that at upper part of end of cell barely indicated. Hind wing submarginal bluish spots as in nominate race, but the marginal border slightly broader and brighter red above upper tail but mixed with golden olive from lower tail to anal angle; edge black with trace of a fine white fringe. Tails as in the nominate race. *Underside*. Fore wing, ground colour and pattern as in nominate but slightly more rufous at base; the postdiscal lunules larger, more distinct and reddish. Hind wing, ground colour more reddish toward base; pattern similar, but postdiscal lunules strongly reddish and mixed with orange at the anal angle. Marginal border wider and brighter red to upper tail, then mixed with orange to anal angle.

Holotype male. CONGO: Brazzaville, October 1966 (coll. J. Plantrou).

The female forms taken so far are also distinctive, though some of them have their counterpart in the females of *manica manica*.

♀ form *atribasis forma n.*

(Pl. II, figs 87, 88)

Fore wing length 40 mm. *Upperside*, nearest to the form *manica* of the nominate race but differing as follows: Fore wing, base blackish, or blue-black in side light as far as the upper part of the white oblique bar, the pale blue being limited to the lower proximal half of the bar in 1a-1b and very slightly in 2. The white bar is widest at the costa where there is an extension into the sub-bases of 6-7, the bar tapering slightly to 2, then represented in 1b by a smaller spot in upper part and a few white scales in the lower which is mainly blue; the distal half of the wing is black; the subapical whitish spots large; edge of wing with very narrow white inter-neural fringe. Hind wing, basal area black with bluish bloom in side light, shading to more greyish on the inner fold; disc of wing with a broad pale blue discal patch, commencing at the costa and widening in 5-4, then tapering to above anal angle; border of wing black, widest at the upper angle with a complete row of rather conspicuous lilac spots with white centres in the

submargin. Marginal border brick-red above upper tail then mixed with olive toward the hind angle; and edge black; tails fairly long and thin, 6 and 5 mm long. *Underside*. Fore wing, rather paler than in nominate, the satiny greyish brown area in subapex more distinct. The extension of the white bar along the subcosta more strongly marked than above; the black tornal marks and the black marks on proximal side of white area in 1b, strong. Hind wing, ground colour not so dark, but the postdiscal row of reddish lunules conspicuous as are the white lunules in the submarginal line, those toward the anal angle distally accentuated with black.

Holotype female. CONGO: Brazzaville, 19. x.1966 (coll. J. Plantrou).

♀ form *aubergeri* forma n.

(Pl. 12, figs 89, 90)

Fore wing length 40 mm. *Upperside*. Fore wing, pattern corresponding more or less to the form *chintechi* of the nominate race, the orange spots of the discal and postdiscal row bolder, with an extension into the cell at 4, but these spots are on a greenish black ground, those of the discal line suffused over with a beautiful iridescent greenish blue which replaces the white of the nominate form, and extending basad onto the black base of the wing. Margin of wing with obscure ochreous spots, white and double in 1b. Hind wing, discal and postdiscal area with a large patch of iridescent bluish green, slightly paler in the disc and slightly shaded orange toward the costa where there is a distinct blackish oval mark; the base of the wing dark but with a blue sheen. Border of wing strongly black, carrying a complete row of conspicuous bluish white linear marks; margin with reddish lunules outlined in white mixed with olive toward the anal angle. Tails long, thin, upper 6 mm, lower 5 mm. *Underside*. Fore wing, ground colour strongly rufous, the discal and postdiscal spots on upperside are here dull orange, the marks in 1b coalescent; tornal black mark strong, with two whitish dots distally on margin. Hind wing, ground colour rufous brown with a paler disco-postdiscal bar crossing the wing accentuated proximally by a fine black line and distally by more reddish contiguous lunules in the postdiscal line. Submarginal white linear marks strong; marginal red border rather narrow outlined greyish proximally shading to olive at anal angle.

Holotype female. CONGO: Brazzaville, 25.v.1967 (coll. J. Plantrou).

This distinct form is name after its discoverer.

♀ form *pseudosmaragdalis* van Someren & Jackson **comb. n.**

(Pl. 12, figs 91, 92)

Charaxes cedreatis vetula, ♀ f. *pseudosmaragdalis* van Someren & Jackson, 1957 : 89.

Charaxes cedreatis, ♀ f. *pseudosmaragdalis* van Someren & Jackson; van Someren, 1969 : 89, pl. 3, figs 18, 19 (type).

This distinctive form was erroneously assigned to *Charaxes cedreatis*, largely on account of its very conspicuous submarginal linear marks above and below on the hind wing. Moreover, *Ch. manica* had not been recorded further west than Katanga. I am glad to have the opportunity of correcting the error.

Fore wing length 40 mm. *Upperside*. Fore wing, ground colour, distal portion black, basal area black at end of cell, but strongly suffused with greenish blue to the base, as in the other females described. The wing is crossed by two rows of spots, discal and postdiscal, exactly as in f. *aubergeri*, the marks coalescing at the hind margin; the discal spots are bright

blue, as are the postdiscal, except for the two subapical ones which are white. The margin of the wing has a series of obscure pale spots as in *aubergevi*. Hind wing, basal area is blackish with the same strong greenish blue iridescence in side light; the inner fold is greyish. The disc of the wing has a large iridescent blue patch as in the other forms, the outer border sharply defined from the black border, which carries distinct bluish white linear marks, double at the anal angle; the marginal border is reddish above the upper tail, outlined in whitish and mixed with olive at the anal angle. Tails as in other forms. *Underside*. Fore wing, ground colour of one of the specimens taken at Brazzaville is more rufous than that of the type, but the satiny bars and the black marks at the hind angle are similar. The same remarks apply in regard to the hind wing, but unfortunately the distal portions of both hind wings are missing in the Brazzaville specimen submitted.

Range: So far as is known, this new form of *manica* occurs in the region of Brazzaville and Leopoldville, and greatly extends the range of the species to the west.

Note by Monsieur Jacques Plantrou.

'This form seems to be especially rare, and there is too little material to form an idea as to the relative proportions of the various female forms. As far as we know, only two males, three female *atribasis*, two *aubergevi* and three *pseudosmaragdalis* have been taken in spite of intensive trapping by at least three collectors during a period of three years.'

Charaxes mccleryi sp. n.

(Pl. 12, figs 93, 94)

Charaxes sp. n.? van Someren, 1969 : 163, No. 26.

This species belongs to that highly complex association which includes *manica*, *alpinus*, *etheocles*, *ethalion*, etc., whose males are often confusingly alike and whose females are very variable. After a thorough examination of its genitalia along with those of allied species, one is forced to regard *mccleryi* as a distinct species. Moreover its distribution coincides and is overlapped by others of the group. For comparative illustrations of genitalia, *vide* van Someren, 1969 : 163, No. 26.

MALE. Including the type, fore wing length 34–36 mm; apex bluntly pointed; outer margin slightly incised. *Upperside*. Fore wing, black, with very slight greenish tinge at base, immaculate, except for two faint blue spots in the sub-apex, sometimes only one. Extreme edge of wing with very narrow white fringe in interspaces. Hind wing, black, slightly duller on inner fold; minute white dots on submargin, in region of tails, and double mauvish spot in anal angle; border of wing maroon above tails, shading to olive-green from upper tail to anal angle. Margin of wing very slightly serrate, tails at veins 4 and 2, 5 and 6 mm long, thin, black in colour with olive centre line. *Underside*. Fore wing, ground colour warm greyish brown with ferruginous bloom; satiny bars in disco-postdiscal line divided at costa by a dark quadrate mark. Three ovoid black spots in fore wing cell narrowly outlined in white, fine black lines beyond, those in sub-bases 6–2 in discal line, black. Submarginal zone with obscured dark spots, but double and very distinct in 1b at the hind angle, the black spots shaded with greyish proximally and outlined in black distally. Hind wing, ground colour as fore wing, the dark discal bar edged in black; postdiscal zone with maroon lunules edged with olive proximally and lined in black, the olive more apparent above the anal angle. Margin of wing maroon to upper tail, then olive, edge proximally in black, double spot in anal angle; edge black with narrow white fringe. There is a pale mark on the inner fold above the anal angle.

FEMALE. Those captured to date bear a strong resemblance to the white-barred form of *etheocles* but with smaller discal-postdiscal white spots in fore wing. Fore wing length 42 mm. *Upperside*. Fore wing, shape similar to the male but outer margin less incised. Ground colour brownish black, with slight greenish tinge at base. Spots in discal line as follows: two subcostal spots in sub-bases 6-5, upper larger, followed by spots in sub-base 3 and base of 4, the latter small and set in towards the end of the cell, the spot in 2 quadrate, than in 1b larger, with incised inner edge, that in 1a an elongate streak, the upper spots off-white, the lower white. The postdiscal row of spots are smaller and well separated, three in a row in sub-apex, spot in 4 set in, followed by an angular mark in 3 and a faint mark in 2. The two rows of spots are well separated. Hind wing, ground colour black in basal area and border, greyer on the inner fold. The disc of the wing with a white bar, 6 mm wide at costa then tapering but lower borders strongly bluish, especially on the proximal side. Border of wing with mauve lunules with white centres, ending in a double mauve spot in the anal angle; margin with a maroon line shading to olive and expanding at anal angle. Tails long and thin, upper 7 mm, lower 8 mm. *Underside*. Fore wing, ground colour earthy brownish grey with rufous bloom; darker bar in the discal-postdiscal zone separating the two rows of whitish spots, those in the outer row buffish, both arranged as upperside. Border of wing with hardly any indication of dark sub-marginal spots except in 1b, where the double black spots are large, conspicuous and bordered with whitish, forming a strong 'eye-spot'. Hind wing ground colour as fore; basal dark lines faint; discal white bar narrower than above and extending to just beyond the end of the cell. Postdiscal maroon lunules, edged olive and black proximally, fairly distinct, shading to olive above anal angle, with a pale buffish mark on inner fold just above. Marginal white lunules very distinct, bordered by equally distinct reddish lunules to upper tail then shading to olive at anal angle, with some black between the rows, especially in the region of the tails, ending in the double black spot in the anal angle.

Some females are more flushed with rufous over the entire underside.

Holotype male. TANZANIA: Bunduki Hill, Uluguru Mts, 6000 feet. vii.1966 (C. H. McCleery). To be deposited in the British Museum (Nat. Hist.).

Allotype female. Same data.

Paratype males (2), Uluguru Mts, February 1967 (J. Kleilland).

Range: At present known only from the Uluguru Mts in Tanzania.

SYSTEMATIC LIST

Charaxes manica Trimen

Charaxes manica subrubidus ssp. n. Type locality: Congo, Brazzaville.

Range: Congo, Brazzaville, Leopoldville.

Charaxes manica subrubidus ♀ f. *atribasis* forma n. Type locality: Congo, Brazzaville.

Charaxes manica subrubidus ♀ f. *aubergeri* forma n. Type locality: Congo, Brazzaville.

Charaxes manica subrubidus ♀ f. *pseudosmaragdalis* van Someren & Jackson 1957, **comb. n.** Type locality: Congo, Leopoldville.

Charaxes macleeryi sp. n.

Charaxes macleeryi sp. n. Type-locality: Tanzania, Uluguru Mts.

Range: Only known from the type locality.

II. FURTHER NOTES ON THE *CHARAXES XIPHARES* COMPLEX
AND A DESCRIPTION OF A NEW SUBSPECIES*Charaxes xiphares woodi* van Someren

Charaxas xiphares woodi van Someren, 1964 : 195.

When I described this subspecies of *Charaxes xiphares*, it was known from only two males. Intensive search has been made for the female in the two localities from whence the males were taken, but it was not until April 1966 that an almost perfect female was secured by Mr Peter Martin on Soche Mt., 5000 feet, Malawi, in almost the same spot where he had taken a male earlier in the same month. He took a second female at the Mlosa Stream in August 1967.

Between these dates, two more females and a male were secured by Dr C. H. McCleery in the Nchisi Forest, Central Province, Malawi between January and March 1967, thus extending the range of this subspecies considerably to the north.

The males agree in all essential respects with the holotype and paratype described in 1964, the only difference is in the width of the orange border of the hind wing, but this is shown to be variable, in specimens of both sexes, from the same locality.

FEMALE. Fore wing length 54-55 mm (neallotype 55 mm, a small specimen 50 mm). Shape very similar to that of the male, but slightly less incurved on the margin at 3-4. *Upperside.* Fore wing, ground colour black, crossed by a somewhat interrupted discal white bar consisting of a thin white area on the costa, two elongate and a triangular mark at bases of 6, 5 and 4, divided by black veins, a more obliquely quadrate mark in 3 set out a little, forming an angle with marks above, a long somewhat ovoid mark in 2 with a small rounded spots at its distal end in upper part of 2b and a more triangular mark in lower portion, followed by an elongate mark in 1a extending proximad; the three lower marks in contact with the rather obscured orange-ochreous, rounded spots of the postdiscal line in these areas, the rest of the spots in the postdiscal line free, forming a gentle curve with larger more whitish spots in sub-apex 6-7. Margin with golden ochreous spots, double at the hind angle, decreasing in size up to apex. In some specimens, the marginal spots, other than those at the hind angle, missing or only faintly indicated. Hind wing, ground colour black at base shading to ashy grey on inner fold; outer border broadly black; disc of wing with a large bluish patch, ill-defined on its lower half, becoming whitish and more defined and restricted in 4-6 to subcosta, the inner border encroached on by the black ground. On the distal side of the patch there are three ill-defined ochreous spots in the postdiscal line. Submargin with a complete row of somewhat triangular bluish spots. Margin with strong line of golden ochreous lunules, slightly separated by black veins, olive green at anae angle; edge black with narrow white fringe. Tails short and stumpy. *Underside.* For wing, ground colour olive-greyish, slightly paler at the base; cell with four black lines, narrowly outlined in bluish white, sub-base of 2 with a short black bar, and traces of lines in sub-base 1b. The discal area of the wing darker, with the white bar as above, except that the white marks in 1b are smaller; and more defined. The postdiscal row of ochreous spots, more in the form of lunules from 1b-3, accentuate the proximal edge of the conspicuous black marks at the hind angle and space above, the rest of the spots are orange-ochreous, the one at subcosta slightly whitish; the submarginal ocelli are faint; the marginal ochreous spots faint except those at hind angle. Hing wing, ground colour as fore wing, the basal black lines are thin, edged in white, those on the proximal side of the irregular white bar stronger, the white bar commencing at the subcosta fades out toward the inner fold which it faintly crosses above the anal angle; the postdiscal series of ochreous lunules, outlined black proximally, become olive above the anal angle; the admarginal pale lunules with black internally are faint, except toward the anal angle, where the black spots on an olive ground are stronger; marginal border orange, becoming olive toward the anal angle; edge greyish olive with thin whitish fringe.

Neallotype female. MALAWI: Soche Mt., 5000 feet, 26.iv.1966 (*A. J. Martin*). To be deposited in the B.M.(N.H.).

Variation (a). The specimen from the Mlosa Stream, besides being smaller, has on the upper-side, the hind-marginal marks of the fore wing bar strongly lilac; the postdiscal orange spots 2-4 less clear and the marginal ochreous spots limited to the two at the hind angle. On the hind wing, the discal patch is narrower and without any orange scaling in the postdiscal line; the golden ochreous lunules on the border narrower and less clear. On the underside there is a corresponding reduction in the pattern.

Variation (b). Upperside. The female from the Nchisi Forest (26.iii.1967) is semi-erythristic in that the marks of the fore wing discal bar are strongly tinted with orange except for the three subcostal ones, but the mark in 1a is lilac; the postdiscal spots, except for the two subapical are orange-rufous. The marginal spots are small with the exception of the two at the hind angle. On the hind wing the discal patch is reduced in width and more purplish blue on the lower half but is shaded with orange on the upper outer border. The submarginal blue spots are small and the marginal orange is narrow and broken. *Underside.* Fore wing, strongly rufescent, the basal area of 1b blackish; the margin rusty. Hind wing, the discal area is brownish, while the discal bar is hardly indicated, except for a thin area of brownish; postdiscal marks are rusty, thinly black proximally and extending to above the anal angle; the admarginal dark spots are faint at the upper angle, but become strong in the region of the tails and double in the anal angle; accentuated with white proximad; the marginal border dull orange shading to olive at the anal angle; edge olive-grey with narrow white fringe.

Variation (c). Upperside. The second specimen from Nchisi (2.i.1967) is very like the neallotype on the fore wing, but the marginal orange spots are only visible at the hind angle where they coalesce. The hind wing discal patch is very narrow, slightly less shaded with bluish lilac on the borders; the submarginal lilac-blue spots distinct and the orange border strong. The underside, very similar to the type-specimen.

There is some resemblance between this race and *brevicaudatus* of the southern Highlands of Tanzania, which has a wider, more uniform white bar in the female, and specimens of *xiphares* from the Nyika Plateau (Malawi-Zambia) appear to belong to *brevicaudatus*.

Charaxes xiphares kilimensis ssp. n.

(Pl. 12, figs 96, 97)

This new subspecies of *Ch. xiphares* belongs to the north-eastern group of the species which, at the present, includes *brevicaudatus* Schultze, *maudei* Joicey & Talbot, *desmondi* van Someren and *kulal* van Someren, in which the females exhibit a departure from the usual female pattern of the more southern group, most of which have a large ochre patch in the disc of the hind wing. In the northern group the hind wing discal patch is white with strong blue scaling on the borders or overall. The fore wing discal bar is white, while the postdiscal spots, which are pronounced, are ochreous to orange-ochre.

This new subspecies from western slopes of Mt Kilimanjaro exhibits characters which place it intermediately between *brevicaudatus* of the northern end of Lake Nyasa and the southern highlands of Tanzania, which has very short tails in both sexes, and *maudei* of the Usambara Mts and possibly the Ulugurus, which has very long tails in both male and female.

MALE. Fore wing length 49 mm. *Upperside.* Fore wing, ground colour deep blue-black with strong blue sheen in side light, base of costa browner. Discal blue spots rather small, two spots just beyond end of cell, upper one a streak, spot below larger, spot sub-basal in 4 larger and round, spot below it in 3 more elongate but smaller with a minute dot beyond, no spot in 2 and spot in 1b small and round but mark in 1a an elongate streak widest proximally and tapering toward postdiscal line. Postdiscal series: two subapical in 8-7 white, spots in 6-4 slightly smaller and blue, spot in 3 slightly larger, that in 1b double. Margin without orange spots except for a slight indication in 1b. Hind wing with a large discal bluish white patch not reaching beyond 5, with strong blue suffusion on the borders, represented at the subcosta by a discrete blue spot; in the postdiscal row there are two discrete blue spots in the upper sector, but there are confluent blue marks on the outer border of the discal patch, with black scaling in between. Submarginal blue spots distinct from 2-6; border of wing with orange-rufous lunules from anal angle to 6, edged with black. Tails black, of about equal length, 4 mm. *Underside.* Fore wing, ground colour earthy grey with a slight brassy tone, the whole with a satiny sheen in side light except in mid areas of 1 and 2, which are dull; the base of the wing olive crossed by narrow black lines outlined in white; the discal spots represented in olive, proximally edged with black with a suggestion of white in between the postdiscal spots; the two upper subapical spots ochreous, the rest golden olive, the tornal mark olive to greyish distally with conspicuous double half-moon, black in centre, spot in 2 above with slight black distally. Margin with very obscure olive marks, more obvious in 1b and 2. Hind wing ground colour as fore, the sub-base crossed with zigzag olive line narrowly edged in black; the distal zone more bronzy, with a zigzag narrow whitish line from costa to 2, a narrow black line through end of cell area. Postdiscal series of spots from costa to anal angle golden olive narrowly edged with black proximally, the mark in the anal angle a long crescent double edged in black; submarginal spots bluish grey, those toward the anal with black dot distally; marginal lunules golden olive, more greenish at anal angle; edge black with very narrow white fringe. Tails mostly black with olive mid line at base.

FEMALE. Fore wing length 55 mm. *Upperside.* Fore wing, ground colour purplish brown-black in basal triangle, blacker on distal half of wing. Disc of wing crossed by a broad white curved band extending from the costa to hind margin, consisting of 4 elongate white marks, including white area on costa, beyond end of cell followed by an almost oval spot sub-basal in 3, the mark in 2 more elongate somewhat pear-shaped, the white mark in 1b double, small mark above that a blunted triangle, followed by a long streak in 1a, the marks in 1a, 1b shaded with violet scales. Postdiscal spots distinct, a large subcostal subapical mark is whitish and rounded, spot in 6 smaller, those in 5-2 smaller and orange in colour, mark in 1b double and contiguous with the discal marks. Margin with slight internervular orange marks, double in 1b. Hind wing ground colour black in basal triangle, more purplish black in dark border; disc of wing with large violet-bluish patch, more whitish toward bases of 5-6, with a large whitish quadrate mark at subcosta in 8; the discal patch itself shaded with violet and on its distal border is a series of dyslegnic rounded orangish marks from 2-5. Submargin with a series of lilac-blue spots, distinct from anal angle to 5; margin with strong orange border of confluent lunules which shade to olive green at anal angle; edge black with narrow white fringe. Tails black, 5 mm long. *Underside.* Ground colour as in the male. Fore wing, basal triangle with series of strong black lines margined with bluish white, three crossing the cell and two at end of cell, with a black spot at sub-basal of 1b and with a short bar in sub-base of 2. The discal white bar conspicuously outlined proximally in black; post-discal spot white in sub-apical area then increasingly orange to 1b, with the double black spots in 1b and 2 strongly marked; admargin with slight orange lunules strongest in 1b. Hind wing ground colour as fore wing; fine black lines outlined in white at basal triangle; discal bar represented by a pale ochre-greyish band, dyslegnic on its outer border but edged internally by a narrow black and white zigzag line; postdiscal series of rather indistinct ochreous lunules, shaded brownish in lower half, slightly more olive and more defined above anal angle; submarginal series of greyish lunules, broadly edged with black, distally touch the marginal orange-ochre lunules which shade to olive at the anal angle; extreme edge black.

Holotype male. TANZANIA: Lower slopes of west Kilimanjaro at Maua Estate, September 1966. (Collector Edmund, for Major I. Grahame.)

Allotype female. Taken in the same locality, February 1964 (*A. F. Brown*). Deposited in the B.M.(N.H.).

Range: This subspecies is at present known only from the west Kilimanjaro area.

***Charaxes xiphares ludovici* Rousseau-Decelle**

(Pl. 12, fig. 95)

Charaxes ludovici Rousseau-Decelle, 1933 : 271.

This name was associated with subspecies *brevicaudatus* Schultze originally (van Someren, 1964 : 195) but was not formally synonymized. I am unable to form an opinion as to the validity of this race, but Major I. Grahame is of the opinion that it is sound.

The unique type is from Lake Nyassa, E. Africa. (Grahame coll.)

***Charaxes xiphares desmondi* van Someren**

Charaxes xiphares desmondi van Someren, 1964 : 201, pl. 8, fig. 54.

It may be pointed out that the female specimen figured in the above paper is the neallotype described in the text.

SYSTEMATIC LIST

***Charaxes xiphares* (Cramer, 1781)**

Charaxes xiphares woodi van Someren, 1964. Type locality: Malawi.

Range: Malawi.

Charaxes xiphares kilimensis ssp. n. Type locality: Tanzania: West Kilimanjaro, Maua Estate.

Charaxes xiphares ludovici Rousseau-Decelle, 1933. Type locality: Lake Nyassa.

Charaxes xiphares desmondi van Someren, 1939. Type locality: S.E. Kenya, Teita Range.

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